August 1980

Smithsonian

Beak agape, a parent tern guards a young chick on a laboratory island (p. 28)

MCDONNELL DOUGLAS DC-10
DC-10

IDEAS AT WORK FOR YOU.

The DC-10 flies as far as the moon and back twice a day.

It's a 480,000-mile round-trip to the lunar landscape—quite a journey.

Yet the worldwide DC-10 fleet flies the equivalent of two such trips every single day, enroute to 170 cities in 90 countries. And it carries 150,000 passengers a day, in spacious, quiet comfort. In all, more people have flown DC-10s than live in the entire U.S.!

As big and comfortable as it is, the DC-10 is also easy on fuel. The short-range Series 10 is the second most fuel-efficient commercial jetliner in the skies.

Meet the fuel miser.

The new DC-9 Super 80 is the number one fuel-saver—40 percent more fuel efficient than today's most widely flown jetliner.

Passengers love its roominess, with seats every bit as wide as those in the jumbo jets.

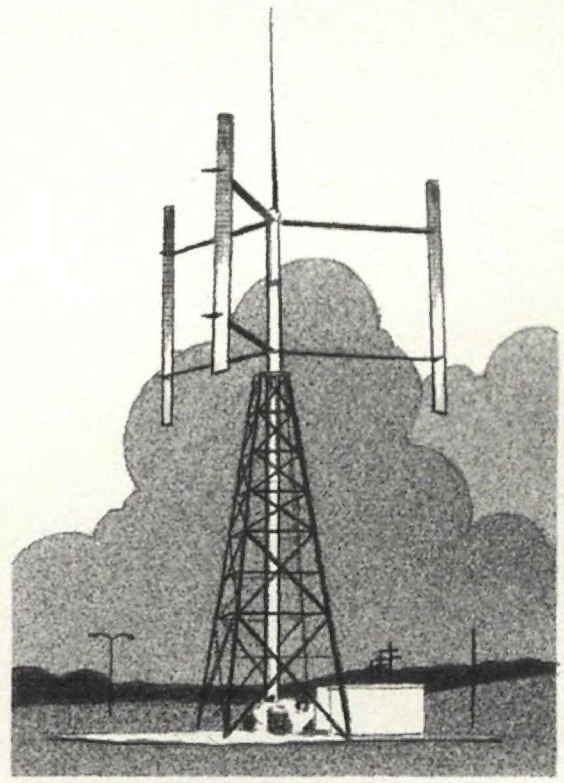
And the Super 80 is quiet both inside and out—quieter than any commercial jetliner now flying with major airlines. That's good news not just for passengers, but for airport neighborhoods, too.

Searching and researching for alternate energy sources.

McDonnell Douglas is hard at work on a number of advanced research projects to help meet the world's future energy needs. Here are just three:

A solar power plant we've designed and are helping to build for the U.S. Government is a giant step toward the development of solar energy. What we learn from this plant, called Solar One, may one day provide the power source for irrigation, crop drying, desalination, refrigeration, space heating and cooling—even enhanced oil recovery.

Our work in fusion energy is making progress, too. We've helped develop a device to generate power to light the way for nuclear fusion. With our help, this safe, clean, abundant energy source may well become a practical alternative by the end of the century.



Whichever way the wind blows, our Giromill will capture it and convert it to electrical or mechanical energy. Now under test, this giant windmill can generate enough electricity for 15 homes, or run deep well irrigation pumps for hundreds of acres of farmland.

Learn more about our ideas and how they work for you. Send for our free booklet, "What We Do." Write McDonnell Douglas, Box 14526, St. Louis, MO 63178.

MCDONNELL DOUGLAS

A JOB? LET'S SWAP RESUMES. SEND YOURS, WE'LL SEND OURS. AN EQUAL OPPORTUNITY EMPLOYER. WRITE: BOX 14526, ST. LOUIS, MO 63178.

Treat yourself like company.

Seagram's V.O.
The symbol of imported luxury. Bottled in Canada.
Enjoy our quality in moderation.

Canadian whisky. A blend of Canada's finest whiskies. 6 years old. 86.8 Proof. Seagram Distillers Co., N.Y.C.

SECRETARY OF THE
SMITHSONIAN INSTITUTION:
S. Dillon Ripley

EDITOR AND PUBLISHER:
Edward K. Thompson (on leave)

MANAGING EDITOR:
Don Moser

EXECUTIVE EDITOR:
Ralph Backlund

BOARD OF EDITORS:
Grayce P. Northcross
Edwards Park
Bennett Schiff
Paul Trachtman
John P. Wiley jr.
Richard L. Williams
Caroline Despard, Pictures

ASSOCIATE EDITORS:
Marlane A. Liddell
Dana Little
Dee McRae
Jane D. Scholl
Nancy Seaman
Carol Simons
Joyce McCarten, Pictures

ASSISTANT EDITORS:
Constance A. Bond
Susan B. Hornik
Edgar Rich

PUBLISHER, ACTING:
Joseph J. Bonsignore

CIRCULATION:
Anne Keating, Associate Publisher
Adeline Sherr
John O'Donnell

ADVERTISING:
Thomas H. Black, Associate Publisher
Edward Daly
Lew Ogle

PRODUCTION:
Nannie Shanahan
Diane M. Bolz
E. Cherry Doyle

BUSINESS:
Carey O. Randall
Mary Ellen Bobb

Smithsonian (ISSN 0037-7333) is published monthly by the Smithsonian Associates, 900 Jefferson Drive, Washington, D.C. 20560.
© Smithsonian Institution 1980.
All rights reserved. Reproduction in whole or in part without permission is prohibited. Subscription price $14 a year in U.S. and possessions, $17.50 elsewhere. Single copy price $1.25. Second-class postage paid at Washington, D.C.
Editorial offices, 900 Jefferson Drive, Washington, D.C. 20560.
Advertising and circulation offices at 420 Lexington Ave., New York, New York 10017.
Please address all subscription correspondence and change of address information to P.O. Box 2955, Boulder, Colo. 80322

August 1980

Smithsonian

Volume 11, Number 5

Table of Contents

COVER: At Great Gull Island's research station, which is dedicated to long-term bird study, a common tern enfolds young, hungry chick in protective wing (p. 28)
Photograph by George Silk

6 The view from the castle: Secretary Ripley's comments

10 Letters to the Editor

18 Phenomena, comment and notes by James K. Page jr.

20 Picture credits

22 Around the Mall and beyond by Edwards Park

28 Working a rugged daily schedule from dawn till dark, eager volunteers study tern behavior on a tiny island
By Michael Harwood, photographs by George Silk

38 After 31 years of extravagant challenges for America's Cup, Thomas J. Lipton ("Sir Tea"), the King's grocer friend, became hero to millions of doting Americans
By A. B. C. Whipple

48 A Counseling-Research Center in Texas uses psychology in cancer therapy, but the medical community is skeptical
By Gina Kolata, photographs by Gordon Trice

60 A California experimental workshop offers industrial machinery and new techniques to extend the art of the print
By Patricia Newman, photographs by Christopher Springmann

68 In Forbes Museum in Tangier, toy soldiers—from British soldiers to Zulu warriors—are much too dear for playthings
By Rudolph Chelminski, photographs by Enrico Sarsini

76 Kentucky poet finds a marginal farm provides a bountiful subsistence and a clearer perspective on our history
By Wendell Berry, photographs by Tanya Berry

84 An army of nostalgic train buffs operates British short lines, carrying sightseers through scenic countryside
By Ann Wood, photographs by Adam Woolfitt

92 Whitney Museum of American Art marks its 50th anniversary, a monument to its founder, Gertrude Vanderbilt Whitney
By Robert Wernick

102 Book reviews

108 Additional reading

110 August events at the Smithsonian

114 Smithsonian tours

116 Don't be alarmed: that's no thief, just my security system
By Dixie Oliver

INSULATE YOURSELF AGAINST COLD, HEAT AND INFLATION.

Time and time again, history has proved that one of the best ways to insulate yourself against the elements is home ownership. And in these times of double digit inflation, the better your home, the better your chances to weather inflation.

Any one of Lindal's 60 different homes can do the trick. As an insulator against the weather, every Lindal Cedar Home deserves top marks. And as a cushion against inflation, there aren't many homes to rival Lindal's timeless marketability.

So, if you'd like to see how to insulate yourself from the perils of cold, heat and inflation, send us this coupon along with $3 for the Lindal Homes Planbook.

LINDAL CEDAR HOMES

P.O. Box 24426/Seattle, Washington 98124/(206) 725-0900

☐ I've enclosed $3 for Planbook and Design Guide

Name_____

Address_____

City_____ State_____ Zip_____

Phone_____ Building Lot Location_____

SM108F

Enter the world of original art for 15¢.

For 15¢, you can mail this coupon to Europe's leaders in original prints, Christie's Print Collection. You will receive a colour portfolio containing our latest selection of original lithographs and etchings.

We offer beautiful landscapes and figurative works by rising young artists from $100 to $150. As well as the work of such masters as Chagall, Moore and Miro.

Each work is an original, numbered and signed by the artist. Then it is stamped with Christie's seal of authentication and delivered to your home. There is no better way to buy original prints. No better time than now.

Christie's Print Collection

For prompt service mail directly to:
Christie's Print Collection
Expediters, 527 Madison Avenue, New York, New York 10022

Name_____
(Please Print)

Address_____

City_____ State_____ Zip_____

SM 1/08/80K

Smithsonian

Board of Regents,
Smithsonian Institution

Ex Officio

Chief Justice of the United States
Warren E. Burger, Chancellor
Vice President of the United States
Walter F. Mondale

Appointed by the President of the Senate

Honorable Barry M. Goldwater
Honorable Henry M. Jackson
Honorable Robert B. Morgan

Appointed by the Speaker of the House

Honorable Silvio O. Conte
Honorable Norman Y. Mineta
Honorable Frank Thompson jr.

Appointed by Joint Resolution of Congress

Honorable Anne Armstrong
Mr. John Paul Austin
Dr. William G. Bowen
Dr. William A. M. Burden
Dr. Murray Gell-Mann
Dr. Caryl P. Haskins
Honorable A. Leon Higginbotham jr.
Mr. Carlisle H. Humelsine
Honorable James E. Webb

National Board of the
Smithsonian Associates

Mr. William S. Anderson, Chairman
Mr. Henry C. Beck jr.
Mr. Nicholas F. Brady
Mr. Keith S. Brown
Mrs. Jackson Burke
Mrs. Charles H. Clark
Mr. E. Mandell deWindt
Mr. Gaylord Donnelley
Mr. G. Morris Dorrance jr.
Mr. James A. Elkins jr.
Mr. Gordon Hanes
Mr. Richard D. Hill
Honorable Carla Anderson Hills
Mr. James M. Kemper jr.
Mrs. Robert A. Magowan
Mr. Scott McVay
Mr. John R. Norton III
Mr. George S. Pillsbury
Mr. Arthur A. Seeligson jr.
Mr. David E. Skinner
Mr. Roger B. Smith
Mr. Vernon Taylor jr.

Honorary Members

Mr. Richard P. Cooley
Mr. Joseph F. Cullman III
Honorable Leonard K. Firestone
Mr. Alfred C. Glassell jr.
Mr. William A. Hewitt
Mrs. Lyndon B. Johnson
Mr. Lewis A. Lapham
Honorable George C. McGhee
Mr. Francis C. Rooney jr.
Mr. Merritt Kirk Ruddock
Honorable Thomas J. Watson jr.

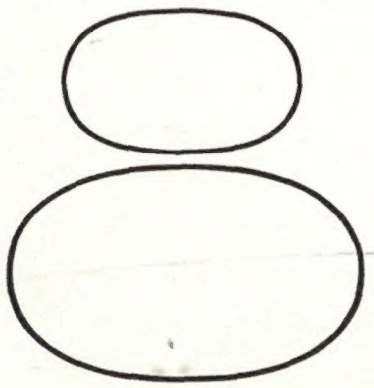
NOW THE REVOLUTIONARY IS STANDARD.

THE REVOLUTIONARY CUISINART® LARGE FEED TUBE IS NOW STANDARD EQUIPMENT ON DLC-7E & DLC-8E MODELS.

Earlier this year we introduced the Cuisinart Large Feed Tube, a remarkable accessory that enabled any Cuisinart food processor to cut much larger slices and make much longer shreds.

Now, as part of our continuing effort to improve the performance and value of our products, we have made this Large Feed Tube standard equipment on our DLC-7E and DLC-8E models at no extra cost.

Relative Typical Feed Tube Opening



Large Feed Tube Opening on DLC-7E and DLC-8E Models.

This feed tube is so big it accepts foods as large as many whole tomatoes, onions, oranges, even Idaho potatoes. Food can be processed faster than ever before.

In short, these two Cuisinart machines, which have been considered by many culinary experts and food editors to be the finest available for home use (they have more powerful motors and more capacity), are now even better. They outperform all other food processors on the market.

FOR MORE INFORMATION.

For more about our DLC-7E and DLC-8E models, write Cuisinarts, Inc., P.O. Box 292 (S), Greenwich, CT 06830. We'll also be pleased to send you information on our magazine, "The Pleasures of Cooking" (for those to whom cooking is a joy, a means of expression).

Cuisinart®
Food Processor

Secretary Ripley's comments

The view from the castle

Siberian cranes, like North American whoopers, live perilously on the edge of extinction—a situation aggravated by the drought in India

NEW DELHI—The monsoon came late to India last year and in most places the rains were meager. In Rajasthan drought conditions prevailed. Twenty years ago the press would have been expatiating on the condition of the crops, or perhaps starving cattle. But environmental consciousness has progressed so far that, last year, not only Indian newspapers but the world press worried about the effects of drought on the Siberian crane's winter home: the huge, swampy Keoladeo Ghana Sanctuary in Bharatpur (SMITHSONIAN, October 1976). It reminded me of the interest with which Americans and Canadians, in the 1950s, began to read each autumn about the safe arrival in Texas of the tiny band of whooping cranes.

Ecologists understand that the health of the family of 14 species of cranes—one of the most vulnerable of all groups of endangered creatures because of its small size, prominence and vast international hegiras—serves as an extraordinary environmental danger signal.

The whooping crane migrates 2,500 miles twice a year within North America. The Siberian crane, equally large and spectacular, migrates perhaps half again as far into what is now a highly disturbed winter range—northern Iran—and crosses Afghanistan to its one safe haven in the glorious 40,000 acres of shallow pools in the "Ghana." (Another but more easterly band performs a still-uncharted journey into southern China, one hopes safely.)

So, at least until the Chinese wintering area of the easterly population is discovered and given full protection, the fate of the huge Rajasthan marsh may hold the fate of a species, of which there are perhaps fewer than 340 survivors in all. Eight years ago 77 birds reached Rajasthan. This past year, with the marsh overrun and befouled by cattle and buffalo let in because of the drought, only 33 were seen—a dramatic decline. No wonder the press and ecologically minded people around the world await the monsoon, and the birds' December arrival, with trepidation. Suppose the birds are shot at in Afghanistan, where they stop for a rest, and turn up in the local butcher shops? Suppose people are hungry and the targets easy in Iran? Another genetic pool of unique resources will be lost.

There are whole new organizations devoted to international crises of this sort. The International Crane Foundation is one, headed by two zealous and energetic young men—George Archibald and Ron Sauey—who fly all over the world, pleading for funds and crane eggs, the latter to hatch on their reserve in Baraboo, Wisconsin.

They are aided by the larger international groups—for example, the International Council for Bird Preservation and the World Wildlife Fund—but the funds available to these groups are pitifully small compared with the needs. One good source of support is the Indian government, which has taken a forward-looking stand on conservation and wildlife. They realize that the long-range health of the nation depends on maintaining a balance between mankind and nature.

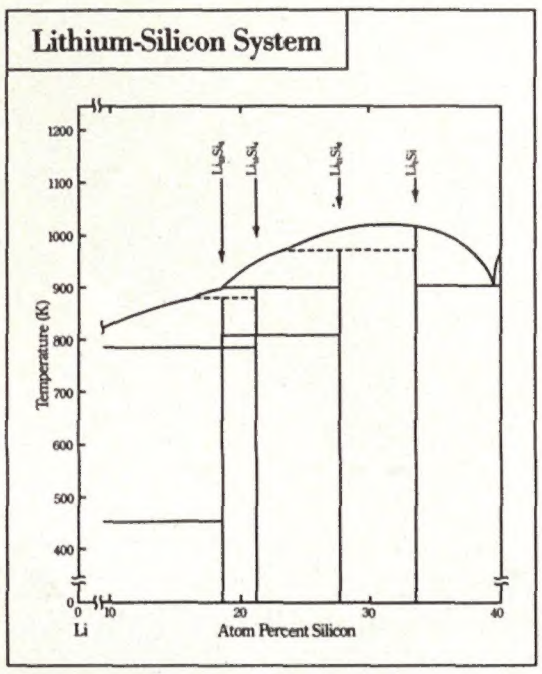
Everyone hopes that the rains will fall on Rajasthan this summer in good measure, not only for the people but also for those splendid, wild, beleaguered creatures on their perilous flight, the Siberian cranes.

S. Dillon Ripley

The Lithium Paradigm

The Lithium Paradigm

The practicality of a mass-produced electric car depends upon the development of a long-life, low-cost, rechargeable battery. Recent discoveries at the General Motors Research Laboratories have encouraged scientists seeking to harness the abundant but elusive energy available in lithium—a highly desirable battery component.



Partial phase diagram of the lithium-silicon system. Lithium activity changes by two orders of magnitude in the concentration range shown.

Color-enhanced scanning electron micrograph showing the results of lithium attack on boron nitride.

HIGH ELECTROPOSITIVity and low equivalent weight make lithium an ideal battery reactant, capable of supplying the specific energy needed to operate an electric vehicle. The source of the abundant energy available in lithium, however, is exactly what makes it almost impossible to manage. The challenge is to prepare alloys and find materials stable enough to contain the aggressiveness of lithium without greatly suppressing its activity.

New knowledge of the thermodynamic properties of lithium-containing materials has been revealed by fundamental studies conducted at the General Motors Research Laboratories. Investigations, carried out by Dr. Ram Sharma and his colleagues, aim at developing a basic comprehensive understanding of selected "exotic" systems. Their work is directly related to the search for an advanced molten salt battery cell.

Specific energies greater than 180 W·h/kg, about five times that of the lead-acid battery, have been demonstrated by electrochemical cells utilizing LiCl-KCl electrolyte and electrodes of metal sulfide and lithium alloy. But operating temperatures of 723 K and the aggressive nature of the chemical reactants pose serious new challenges to cell construction materials. Of particular concern is the lithium attack upon separators and seal components. Most inorganic insulators, including the refractory oxides and nitrides, are destroyed or rendered conductive by this attack. Boron nitride, one of the more resistant materials, has been the subject of Dr. Sharma's recent, successful efforts to establish conditions under which attack may be avoided.

Dr. Sharma began by exploring the thermodynamics of the lithium-silicon system. Silicon reduces the activity of lithium without substantially increasing its weight, and produces a manageable solid at 723 K.

Constant-current potentiometry experiments were carried out in an inert atmosphere. The electrochemical cell consisted of a Li-Si alloy positive electrode, a eutectic mixture of LiCl-KCl electrolyte, and two Li-Al alloy electrodes—one negative and one reference electrode.

A series of anodic and cathodic cycles at very low current densities indicated three well-defined voltage plateaus below 80 atom percent lithium composition. This behavior was confirmed by experiments in which pure silicon was used in place of Li-Si alloy as the starting material.

The results were used to modify the Li-Si phase diagram, which indicated only two such plateaus. The revised phase diagram shows four compounds: Li_2Si, $Li_{21}Si_8$, $Li_{15}Si_4$ and $Li_{22}Si_5$. The exact composition of $Li_{21}Si_8$ had not previously been known.

Dr. Sharma confirmed the existence of the new compound by x-ray diffraction analysis. He determined its melting point to be 976 ± 8 K by differential thermal analysis. He produced a scanning electron micrograph that clearly indicates a single phase for the compound. He was also able to determine the maximum nonstoichiometric ranges of the lithium-silicon compounds from charge passed during the transitions between voltage plateaus.

KNOWLEDGE OF THE lithium activity present in the system's various compounds allowed Dr. Sharma to evaluate the stability of boron nitride with Li-Si alloys of differing composition.

A controlled potential was imposed on a boron nitride cloth sample in an electrochemical cell. By monitoring the current in the cell at different potentials, Dr. Sharma established the point at which lithium activity produces reaction.

Boron nitride was found to react with $Li_{15}Si_4$ only when in the presence of $Li_{22}Si_5$. The new compound, $Li_{21}Si_8$, did not exhibit sufficient lithium activity to attack boron nitride.

Reaction occurred according to the following equation:

$$BN + (3+x)\,Li = Li_xB + Li_3N$$

The lithium nitride that formed during reaction dissolved in the molten salt electrolyte, but the lithium boride remained on the surface and became electronically conductive, causing high self-discharge in the cell.

"The establishment of the region of stability of boron nitride makes it possible to recommend appropriate charging limits," according to Dr. Sharma.

"Restricting the amount of charge in keeping with the recommended limits will control lithium activity, preventing the formation of highly-conductive compounds and adding durability to an electrochemical system which already displays high specific energy. Ultimately, that brings the prospect of high-performance electric vehicles closer to reality."

THE MAN BEHIND THE WORK

Dr. Ram Sharma is a Senior Research Scientist in the Department of Electrochemistry at the General Motors Research Laboratories.

Dr. Sharma was educated in India and England. He graduated from Banaras Hindu University with an M. Sc. in physical chemistry. He received a Ph. D. in physical chemistry and chemical metallurgy from London University's Imperial College of Science and Technology.

Before joining General Motors in 1970, Dr. Sharma conducted research at the Argonne National Laboratory, the Institute of Direct Energy Conversion at the University of Pennsylvania, the Nuffield Research Group in England and the National Metallurgical Laboratory in India.

GM General Motors
People building transportation to serve people

Letters to the Editor

Tropical canopy

Dear Sir: Donald Perry's article on a Costa Rican tropical canopy, in your June issue, excited my interest in the arboreal habitat. His suggestion of Man's "long evolution in the trees" as well as his self-confessed déjà vu in the canopy makes one believe it possible that the assumptions of arboreal existence implied by Edgar Rice Burroughs in his tales of Tarzan and the apes may not be altogether fiction. The idea that Man's ancestors may have traveled the rain forests on arboreal highways a hundred feet above the ground is not at all ludicrous in light of Perry's professional and imaginative research.
James E. Weeks
Tulsa

Dear Sir: I know it was a long and dangerous project for Donald Perry to bring us such rich photographs and information about the mysteries of nature. I enjoyed looking at the Great Potoo bird that appears to be smiling from its perch 120 feet high in the canopy.
Mary Carroll
The Bronx

Human evolution

Dear Sir: I am writing to protest the article, "Current research casts new light on human origins," by John Pfeiffer. It is to be regretted that the entire article assumes evolution to be an established fact of science. I realize this is the position held by most of the scientific and academic world, but just believing that a thing is true does not make it true. I realize that this is not a one-way street and that just believing the Bible to be true does not make it true. While I realize that neither creation nor evolution has been proved as a fact of science, it is my conviction, based on investigation, that the creationist has a much stronger basis for his faith than does the evolutionist.

The creation-evolution conflict is not a secondary issue. Bills have been introduced in state legislatures to have creation taught along with evolution in high schools. The battle lines are being drawn between Christ and Antichrist, between theism and humanism, between the Judeo-Christian ethic and atheism.
Homer Duncan, Executive Director
Missionary Crusader, Inc.
Lubbock

Dear Sir: When I see articles such as John Pfeiffer's it makes my blood boil. In Genesis I: 26, the Bible tells us, "And God said, Let us make man in our image, after our likeness . . . ," and in Genesis II: 7, it is stated: "And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life. . . ." Man alone is a trinity who has a body, a soul and a spirit.
Mrs. Ralph Nifong
Middlebury, Indiana

Dear Sir: I found since reading your article on Man's relationship to the apes that I can't shake it out of my mind. First of all, I am a Darwin admirer and a follower of the Leakey family, so I read the new discoveries with an open mind. They gave me a new perspective that I hadn't counted on. Separating ourselves from other dwellers on this planet has always provided a lot of excuses for our bad behavior. I hope enough of us will now stop being silly and get going on saving our Earth with seriousness. But I doubt it, for there will be much "howling" about where is God.

I now look at all my creature comforts with new eyes and hear the breath of those that left the footprints leading from there to here. I feel a surge of pride, and great wonderment on the whole scope of Man.
Pat Schneider
Baton Rouge

Dear Sir: Had the molecular biologists counted the chromosomes that are repositories of the patterns for proteins under study, they would have found that apes have two more chromosomes than Man.

If evolutionists wish to eliminate the Deity in the creation of Man, then they should be consistent. If they wish to consider life a biophysical/biochemical system, then they must govern themselves by the physical laws describing such systems. The second law of thermodynamics teaches that reactions will lead from the more complex to the more simple. Evolution teaches that the biophysical/biochemical system moves from the simple to the more complex.
Raphael Escoe, D.D.S.
Massena, New York

Dear Sir: All of the evolution articles, including John Pfeiffer's thought-provoking one, do not answer the basic question of what promotes Homo sapiens to think.

Besides the many wonderful accomplishments and terrible deeds we have done, there are many beautiful creations that we cherish.

We have to ask in awe how George Frideric Handel, in 1741, sitting in a closed room sometimes with tears streaming down his face, could create his celebrated *Messiah* in only 24 days.
Harry F. Bittner
Carneys Point, New Jersey

Dear Sir: John Pfeiffer's fascinating article had this effect on me—

> Some scientists have now come up
> With DNA comparisons
> Of modern Man and chimpanzee
> That show us closer than was thought;
> I feel as though I'd just been caught
> without a proper pedigree
> In AKC restricted hunts
> And banished as a mongrel pup.

William Paulk
Cullowhee, North Carolina

St. Kilda

Dear Sir: After reading Charles Maclean's article, I had the good fortune to get a copy of the British edition of his book, *Island on the Edge of the World,* and found the following passage fascinating:

"Some time before the last Ice Age, when the climate was milder and the island lightly forested, wrens first migrated to Hirta. As the climate began to deteriorate and the environment to change, the wrens had to adapt to survive. Trees

BECAUSE the pale golden glow of our fragile Sauvignon Blanc is an indication of its taste, the winemaker must judge with his eye as well as his palate. Every step we take, we take with care because THE WINE REMEMBERS

THE WINERY OF
ERNEST & JULIO
GALLO

Sauvignon Blanc of Calif.
Ernest & Julio Gallo, Modesto, CA

Cruise Indonesia, explore the Orient. October through April.

17 to 28-day fly/cruise tours to Indonesia, plus Manila, Bangkok, Tokyo, and Hong Kong!

Savor the beauty and mystery of colorful Indonesia, plus the delights of the Orient, on an exciting fly/cruise tour from the West Coast.

Jet to such unforgettable Oriental destinations as glittering Bangkok, cosmopolitan Tokyo, bustling Manila, and duty-free Hong Kong.

Tours include an Indonesia Adventure Cruise on the luxurious m.s. Prinsendam from Singapore, visiting Penang, Sumatra, Nias, Java, and Bali.

Highlights of our unique 14-day cruise itinerary include the Stone Age culture of Nias ...Borobudur, the Mahayana Buddhist sanctuary... volcanic Lake Toba...the wild bull races at Madura...and the thrilling "Kecak" (monkey dance) of Bali.

Your travel agent can help you with reservations for a fly/cruise tour, or, if you prefer, cruise-only accommodations. Cruise departure dates: October 27, 1980 to April 13, 1981.

Or, sail April 27, 1981 on our 30-day Orient/Alaska Cruise, Singapore to Vancouver, calling at Bangkok, Manila, Hong Kong, Shanghai, Japan, and Alaska. Optional Peking tour. Fly free West Coast to Singapore.

The m.s. Prinsendam is registered in the Netherlands Antilles.

Holland America Cruises, 2 Penn Plaza, New York, N.Y. 10121

Please send me information concerning:
☐ 1980-81 Indonesia Adventure Cruises and 17 to 28-day fly/cruise tours.
☐ 1981 Orient/Alaska Cruises.

Name_____

Street_____

City_____ State_____ Zip_____

My travel agent is_____

Holland America Cruises
"Welkom aan Boord!"

791C8-80

gradually ceased to grow on the island and the wrens had to learn to perch on the rocks and cliffs instead, often in high winds. Consequently they evolved certain adaptive traits. They developed larger and stronger feet, longer tougher beaks and grew generally bigger than the mainland birds. Their colouring became drabber though more varied, and their song peculiarly sweet and soft. They now constitute a highly differentiated subspecies known as *troglodytes hirtensis*—the St. Kilda wren [see below]."

After being mercilessly hunted and in danger of becoming extinct in the late 1800s, a 1904 special act of Parliament was passed to protect them and now, according to the book, there are more than a hundred breeding pairs.

Donna Bennett
New York City

Plant hunters

Dear Sir: I thoroughly enjoyed the article by Dennis Farney about Dr. John Creech, the Bradford pear tree and the background material on Frank N. Meyer. The Meyer letters were housed in my office from the time I became secretary to the head of the Division of Plant Exploration in 1955 until I retired in 1972. During the time I was secretary to Dr. Creech, one of the Bradfords was tested in my yard.

Frank Meyer, in his will, left a thousand dollars to his coworkers for a suggested "outing." Instead they, along with the American Genetic Association, chose to have a medal struck in his honor—The Frank N. Meyer Memorial Medal for plant exploration. Dr. Creech was also a recipient of this medal.

Lucile L. Fonda
Silver Spring, Maryland

hexa·photo·cybernetic

The Possibilities are Endless.

Six-mode exposure control. System versatility. Newer electronics for wider applications.

The Canon A-1 is one of the world's most advanced automatic SLR cameras. Combining the finest in optical and mechanical engineering with the most sophisticated electronics, it's technology applied to give you the ultimate in creative control. At the touch of a button.

Depending on your subject, you can choose from six independent exposure modes to achieve the results you want:

1 Shutter-Priority: You select the shutter speed, to freeze the action and prevent camera shake or create an intentional blur. The A-1 automatically selects the appropriate lens opening.

2 Aperture-Priority: Control the area in focus by selecting the lens opening for the effect you want. The A-1 matches with the right speed.

3 Programmed: When you need to shoot fast, just focus. The A-1 will select *both speed and aperture* for great results.

4 Stopped-Down: For extreme close-up or specialized photography, a bellows, a microscope or almost anything can be attached to the A-1. It's still automatic.

5 Flash: Totally automatic flash photography, of course, with a wide variety of Canon Speedlites to choose from.

6 Manual: Yes. For those times when you absolutely want to do it all yourself. To experiment. To explore the possibilities.

There are over forty fine Canon lenses ranging from Fish Eye to Super Telephoto, plus accessories to meet every need. If you can't photograph your subject with a Canon A-1, it probably can't be photographed.

From the sophistication of its LED viewfinder display, to a ruggedness that allows up to five-frame-per-second motor drive, the Canon A-1 represents an incredible technology. At a price that makes owning one a definite possibility.

Canon A-1

25 ANNIVERSARY U.S.A.

Canon USA, Inc. 10 Nevada Drive, Lake Success, New York 11042 · 140 Industrial Drive, Elmhurst, Illinois 60126 · 6380 Peachtree Industrial Blvd., Norcross, Georgia 30071 · 123 Paularino Avenue East, Costa Mesa, California 92626 · Bldg. 8-2, 1050 Ala Moana Blvd., Honolulu, Hawaii 96814 · Canon Optics & Business Machines Canada, Ltd., Ontario

L.L.Bean®

Outdoor Sporting Specialties

FREE Fall Catalog

Fully illustrated. Features practical apparel and footwear for men and women. Camping, hunting, hiking and winter sports equipment. Many items of our own manufacture. All guaranteed to be 100% satisfactory. Our 68th year of providing dependable outdoor sporting specialties.

☐ PLEASE SEND FREE CATALOG

Name_____

Address_____

City_____

State_____ Zip_____

L. L. Bean, Inc.
1041 Casco St., Freeport, ME 04033

Before the stockings are hung, have your shopping completed and gifts delivered while you bask in the warmth of your hearth. That's the joy of shopping by mail with the Neiman-Marcus Christmas Book. Your 1980 copy will be ready for you in mid-October. Send 2.00 plus name and address for each book to: Neiman-Marcus, Dept. 38, P.O. Box 2968, Dallas, Texas 75221.

Neiman-Marcus

What your home could have in common with the Met, the Tate, and the Louvre.

Beautiful, original works by artists who are represented in the world's great museums and galleries can be yours for very reasonable prices.

We offer original etchings, lithographs and serigraphs signed by Calder, Chagall, Dali, Miró, Renoir and other important artists.

Jean-Michel Folon's *Signs*

Jean-Michel Folon's wistful, provocative etching, *Signs*, is just one of the many fine prints we've recently made available.

Our expert advice and full money-back guarantee are your assurances that the art you buy will have lasting value and beauty.

Send for our colorful, descriptive catalogue, without obligation.

Original print collectors group, Ltd.

120 East 56th Street, Dept. S-60 New York, N.Y. 10022

☐ PLEASE SEND ME YOUR FREE COLOR CATALOGUE, LATEST NEWSLETTER AND OTHER INFORMATION.

Name_____

Address_____

City_____ State_____ Zip_____

© 1980 Original print collectors group, Ltd.

Dear Sir: Having spent two years studying the several thousand pages of Frank N. Meyer's letters and compiling a biography of this remarkable man, I feel sure that he would not be surprised to see Dr. Creech's Bradford pear.

Frank Meyer's goal was to "skim the earth for things good for man" and to find "the long-forgotten parent stock or the as yet unused wild plant that may be adapted to man's profit by cultivation." From Central Asia he wrote to his supervisor, David Fairchild, "it really is a noble work we are doing. . . . And the ultimate results farther reaching perhaps than we ourselves now realize." Later, he wrote, "We are only cutting out a few steps in the mountain of knowledge and others have to mount by our steps."

Isabel S. Cunningham
Annapolis, Maryland

Nuclear plant simulators

Dear Sir: In regard to your article on nuclear plant simulators, such training will increase the safety of nuclear plant operation, but there is no training, no policing, no laws that can keep radioactive uranium and its radioactive offshoot elements from sickening, killing and causing mutations in all life systems for eons.

This imposition of human-made radionuclides starts with the mining of uranium and continues inexorably through all stages of development, employment, transport, storage and disposal. The problem of disposal is still not solved, and no safe solutions are in sight for years.

Leone Hayes
La Jolla

Political insults

Dear Sir: It must be true, as Richard Wolkomir wrote, that "Political insult ain't what it used to be." In fact, it ain't even the right General. It was General John Pope who issued letters from "Headquarters in the saddle"—not General Joseph Hooker.

E. R. Pomeroy
Wilmar, Arkansas

A number of sources associate this story with General Hooker, but we are convinced by authoritative historians that it was of General Pope that President Lincoln said: "The trouble is that he's got his headquarters where his hindquarters ought to be." Ed.

A Lesson of History.

Beauty adds Value.

CHINESE FAN, CHING DYNASTY, CIRCA 1810 A.D. Exquisite and rare example of Chinese fan-making, highlighted by silver filigree, enameled sticks, and figures with painted ivory faces and appli qued garments. Priceless, one-of-a-kind item from a private collection.

THE VICTORIAN FAN, CASABLANCA FAN CO., CIRCA 1980 A.D.
Solid hardwood blades with stencil pattern, antique brass motor housing, blown-glass floret shades in 5-light kit. Found in today's most beautiful homes.

At CasaBlanca Fan Company, we've learned this lesson of history. As a result, we strive to make our ceiling fans more than finely-engineered, energy-efficient means of circulating air. We make them beautiful as well. With superb materials. And intricately crafted details. There's a wide variety of models from which to choose. So discover fans from CasaBlanca Fan Company at a dealer near you. You'll see why they're the world's most beautiful fans.

CASABLANCA FAN COMPANY

The World's Most Beautiful Fans.

Call Toll Free 1-800-447-4700 Except from Alaska and Hawaii. In Illinois call 1-800-322-4400.

executive health

the report that briefs you on what to watch

©WORLD COPYRIGHT RESERVED 1979 BY EXECUTIVE HEALTH PUBLICATIONS

Volume XIV, Number 10 • Pickfair Building, Rancho Santa Fe, California 92067 • Area 714:756-2600

New research findings . . .

ON WALKING . . . nature's own amazing *"anti-age antibiotic"!*

Not running, not jogging, but *walking* is your most *efficient* form of exercise and the *only* one you can *safely* follow *all* the years of your life!

Today, after some 2000 years, modern medical researchers are demonstrating (somewhat to their surprise) that Hippocrates, "the father of medicine" was right . . . walking is man's best *"medicine"!*

Take one example. At a three-day conference on *Exercise in Aging—Its Role in Prevention of Physical Decline* (held October 27-29, 1977, at the National Institute of Health, Bethesda, Maryland) researchers from across the United States, Canada and Western Europe presented papers on this (until now) largely neglected area of research. As their papers were presented, these important points of agreement emerged:

(1) Walking is the most *efficient* form of exercise . . . and the only one you can safely follow all the years of your life.

(2) Exercise can enable your body to maintain a *vital reserve* which has a protective effect during stress.

(3) Exercised *bones* do not demineralize. As a result they are far less likely to break or lose their range of motion.

(4) Exercised *lungs* still exhibit the emphysema-like changes of age, but are far less diminished in their capacity compared to the lungs of sedentary people.

(5) Exercised *cardiovascular systems* show a similar maximum preservation of function.

(6) The benefits of exercise in preventing or correcting obesity are striking.

(7) Late-onset diabetes is almost entirely reversible by exercise if you are overweight.

(8) Daily exercise permits greater food intake and better blood circulation, thus improving each body cell's nourishment while preventing obesity.

(9) The physically impaired, particularly the arthritic, can perhaps benefit the most from exercise . . .

EDITORIAL ADVISORY BOARD

Sir Hans Krebs, M.D., F.R.C.P. (England), Nobel Laureate in Physiology and Medicine. Emeritus Professor of Biochemistry, Oxford University, Metabolic Research Laboratory, Nuffield Department of Clinical Medicine, Radcliffe Infirmary, Oxford, England.

Richard L. Bohannon, M.D., F.A.C.P., Lieutenant-General, United States Air Force (Ret.); Medical Director, The Institute for Aerobics Research, Dallas, Texas.

James F. Toole, M.D., F.A.C.P., The Walter C. Teagle Professor of Neurology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, North Carolina.

Leonard Hayflick, Ph.D., Senior Research Cell Biologist, Children's Hospital Medical Center, Bruce Lyon Memorial Research Laboratory, Oakland, California.

Albert Szent-Gyorgyi, M.D., Ph.D., Nobel Laureate for Physiology and Medicine, Scientific Director, The National Foundation for Cancer Research, Woods Hole, Massachusetts.

John Stirling Meyer, M.D., Professor, Department of Neurology, Baylor College of Medicine; Chief, Cerebrovascular Research, V.A. Medical Center; Principal Investigator, Baylor Center for Cerebrovascular Research.

Alton Ochsner, M.D., Senior Consultant in Surgery, Ochsner Clinic and Ochsner Foundation Hospital and Emeritus Professor of Surgery, Tulane University School of Medicine, New Orleans, Louisiana.

Roger J. Williams, Ph.D., D.Sc., Professor of Chemistry, Co-founder and Consultant, Clayton Foundation Biochemical Institute, The University of Texas; Past President, The American Chemical Society, Austin, Texas.

Linus Pauling, Ph.D., Nobel Laureate in Chemistry and in Peace; Emeritus Professor of Chemistry, Stanford University, Stanford, California. Research Professor, Linus Pauling Institute of Science and Medicine, Menlo Park, California.

Solon Palmer, Jr., M.D., Scripps Clinic and Research Foundation, La Jolla, California.

Hans Selye, C.C., M.D., Ph.D., D.Sc., F.R.S. (C), Emeritus Professor and Director of the Institute of Experimental Medicine and Surgery; President, International Institute of Stress, University of Montreal, Quebec, Canada.

John K. Lattimer, M.D., Sc.D., F.A.C.S., Professor and Chairman, Department of Urology, College of Physicians and Surgeons, Columbia University; Director, Squier Urological Clinic and Director, Urological Service, Presbyterian Hospital, New York.

How Long Will You Live?

Ignorance about how to take care of yourself can be the mistake that kills you in your 50's or 60's . . . "the dangerous years"!

Discover what research scientists now know about how to take the best care you can of the only body you will ever have.

Do as so many thousands of executives do. Subscribe to Executive Health Report. The members of our ***Editorial Advisory Board*** are among the world's most distinguished authorities on *preventive medicine*. Their wise advice can help you not only live longer but enjoy those extra years! (Note their high qualifications.)

Executive Health Report is not sold on newsstands but only by private subscription of $24 (U.S. Funds) a year in the U.S.A. and its possessions, Canada and Mexico. Individual reports (back issues) $2.00 per copy. All other countries $26 by surface mail, $30 by air mail. (Only International Money Order or check cashable on U.S. bank will be acceptable.)

Subscribe now under this unusual introductory offer:

(1) Your choice of any three of the reports listed below ($2.00 each) FREE!

(2) If you are not satisfied with your first issue, your money will be *promptly* refunded.

Please study the reports listed here and circle your three choices:

New research findings On Walking . . . nature's own amazing "anti-age antibiotic"! Not running, not jogging, but walking is your most efficient form of exercise and the only one you can safely follow all the years of your life!

Linus Pauling, Ph.D.: For the best of health, how much vitamin C do you need? People who take the optimum amount of vitamin C may well have, at each age, only one quarter as much illness and chance of dying as those who do not take extra vitamin C.

New research findings On Zinc . . . the amazing metal so essential to your health.

On The Syndrome Of Longevity. Key factors dependably present ("constants") in the way of life of men who have outlived other men born when they were by a generation!

Roger J. Williams, Ph.D., D.Sc.: On Your Startling Biochemical Individuality. Some amazing facts about your body you need to know if you want to understand yourself (and other people) better.

Leonard Hayflick, Ph.D.: A New Theory On The Cause Of Heart Disease And Strokes . . . Vitamin B_6 may be the key. What new research has revealed that may downgrade cholesterol as the main predisposing factor . . . and why.

John K. Lattimer, M.D., Sc.D.: On that treacherous gland, your prostate — especially as you approach 50.

Stephen R. Elek, M.D. On "The Hurry-up Disease." Why it may be a key factor that triggers heart attacks as early as age 40.

Linus Pauling, Ph.D.: What About Vitamin E? Eminent investigators now suspect it may be one of the key factors to help resist disease and slow the aging process.

Hugh C. Trowell, M.D., F.R.C.P.: A New Dietary Explanation for the cause of Essential Hypertension . . . the dramatic and significant African experience (1929-1958).

Roger R. Williams, M.D.: What is your Genetic risk of an Early heart attack? Why is it that of two men from the *same* town, with the *same* lifestyle, one man lives to be 100 and the other has a fatal heart attack at 35?

On stress and the executive. Dr. Hans Selye, world-famous endocrinologist, explains why hard work is the secret of living a long, satisfying and successful life.

The truth about the right diet and exercise to lose weight safely and stay slender for life.

Alton Ochsner, M.D.: On "The Chair Disease" . . . Why blood clots in your veins are a little-realized hazard of "desk-bound" executives.

James Greenwood, Jr., M.D.: On Osteoarthritis, the "wear and tear" disease . . . Can Vitamin C Help?

If you sit at a desk all day . . . How to avoid a Pot-Belly and Double-Chin (or get rid of them for good!)

Jan Koch-Weser, M.D.: On Systolic Hypertension, more common than diastolic hypertension and as dangerous. What it is, what it does, and what to do about it.

Ewan Cameron, M.D., Ch.B., F.R.C.S. (Glasgow), F.R.C.S. (Edinburgh) and Linus Pauling, Ph.D.: On Cancer and Vitamin C. A consideration of the nature, causes, prevention and treatment of cancer with special reference to vitamin C.

Leonard Hayflick, Ph.D.: On Getting A Good Night's Sleep! What research scientists now know about this mysterious process we so calmly call "sleep."

Albert Szent-Gyorgyi, M.D., Ph.D.: On A Substance That Can Make Us Sick (If We Do Not Eat It!) One of the world's most honored scientists, winner of the 1937 Nobel Prize for Physiology and Medicine explains the fascinating paradox of vitamins.

Denis P. Burkitt, M.D., D.Sc., F.R.C.S., F.R.S.: Is Dietary Fibre Protective Against Disease? The drop in our consumption of potatoes and whole grains may have something to do with the increase in intestinal cancer, diabetes and heart disease—to name a few!

Please use the coupon below under our special money-back guarantee.

EXECUTIVE HEALTH, Pickfair Bldg., Rancho Santa Fe, CA 92067

Gentlemen: Enclosed is my check for $_____ for a year's subscription to Executive Health to start with this month's issue. I have circled the three $2.00 reports I am to receive free. It is understood that if I am not satisfied with my first issue, my money will be refunded. In addition, send me a list of some 100 other reports of yours still in print. There may be some from which I might greatly benefit and would otherwise miss.

Firm/Name (Please print clearly) _____

Street & No./Route _____ **Suite or Apt.** _____

City, State, Country _____ **Zip** _____ SM

HORCHOW

Do your holiday shopping by mail with the tastemaker of American catalogues, filled with gifts, collectibles, fashions and accessories. For a series of catalogues, starting with a big holiday issue, send us this ad, 2.00 and your name, address and zip code

THE HORCHOW COLLECTION
P.O. BOX 34257, DEPT. 41213,
DALLAS, TEXAS 75234

Old Water Meter Boxes are conversation pieces

Genuine water meter box of solid bronze. Mounted on a walnut base, it opens to become a unique desk accessory. 1-3/4"x4". A Gump's exclusive, no two exactly alike. **22.50** Add 2.25 for handling/postage, plus tax for delivery in CA, IL, N.J. and N.Y.

TOLL-FREE: 800-227-4512
(IN CALIF.: 800-652-1662)
AEX, DC, MC and VISA cards.

GUMP'S

250 Post, Dept. 530
San Francisco, CA 94108

Send $1 for our next 4 Gift Books

Smaller can be better, as the new full-power Nikon Roof Prism Compact Binoculars clearly demonstrate. Pocket-size slim and just 7-1/2 ounces light, they outperform many bigger and heavier binoculars in sharp, bright, distortion-free viewing. You see the entire scene, even while wearing glasses. And, most important, they're so precisely engineered that you can view for extended periods, without strain or discomfort. Available in all-purpose 6x, 7x and 8x models. See the difference Nikon quality makes, at Nikon camera dealers and selected optical departments. Or write to Nikon Inc., Dept. N-26, Garden City, New York 11530. Subsidiary/Ehrenreich Photo-Optical Industries, Inc.

SMALL WONDER

NIKON ROOF PRISM COMPACT BINOCULARS

Phenomena, comment and notes

After seven years of bemusement at the march of science, a columnist bids farewell to his favorite Institution

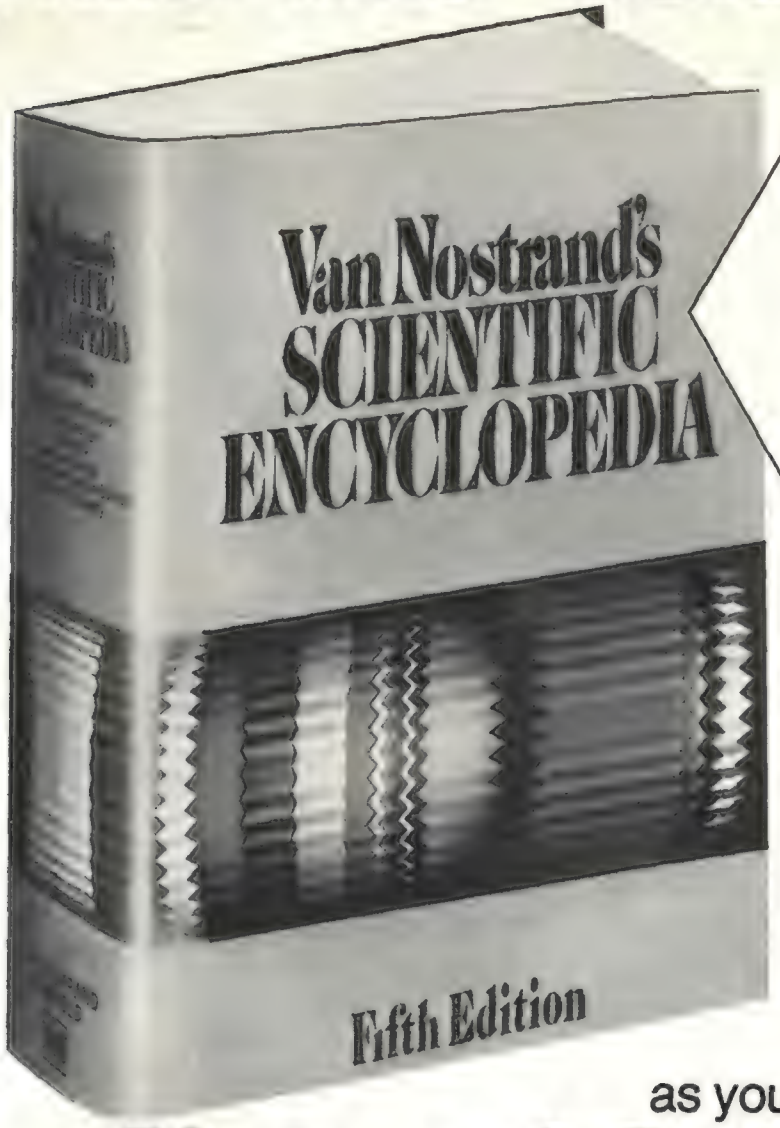
For seven years I have had the altogether singular privilege of sitting down nearly every month with a yellow pad, a pen and an accumulation of what we in the know call "the literature" (that is, a stack of nearly incomprehensible science journals), to see if I could extract something of interest to you and me and to try to set it forth in a pleasing manner.

You should know that there are more than 1.8 million of us Smithsonian Associates. That may not seem to be all that exclusive a club, but it is, and I will get to that soon enough. But first I want to pinpoint the nature of the privilege afforded me by this Institution; for someone who is known to stammer in any public forum and for someone who knows only as much science as can be picked up dilettantishly from friends and "the literature," to address so large an audience so often has been an awesome honor.

This is a roundabout way of suggesting that we all—1.8 million of us plus the rest of our nation—owe a great deal to the Smithsonian Institution.

My wife hates airplanes and is bored by technology. She is no museum goer. She surrounds us with children, birds, vegetation and native American lore and people. Why, she asked me once, do you admire the Smithsonian so much? I replied that any group of people who will show me not the principles of flight (which anyone except a bumblebee could

Take this $69.50 classic for $2.97



VAN NOSTRAND'S SCIENTIFIC ENCYCLOPEDIA

Edited by Douglas M. Considine. Nearly 200 experts have contributed to this thoroughly revised and greatly expanded fifth edition of the most authoritative single-volume source of scientific knowledge ever assembled. Enormous 9¼″ × 12″ volume contains 2.2 million words, 2382 pages, 2500 photographs, drawings, and charts, and 500 tables. 7200 articles cover everything from the earth and space sciences to energy technology, from the life sciences to mathematics, from the information sciences to physics and chemistry. ". . . an amazing book . . . for both the general and scientific reader."—*The New York Times*

or 3 other books for only 99¢ each (values to $74.95)

as your introduction to

Natural Science Book Club

if you will join now for a trial period and take only 3 more books—at handsome discounts—over the next 12 months.

(Publishers' Prices shown)

63350. MYSTERIES OF THE MEXICAN PYRAMIDS. *Peter Tompkins.* 500 photos, drawings and maps. **$20.00**

69538-2. POMPEII AND HERCULANEUM: The Living Cities of the Dead. *Kraus and Von Matt.* Recreates the life of the two towns buried by a volcanic eruption in A.D. 79. Outsized (11″ × 13″) with over 300 photos (70 in full color). *Counts as 2 of your 3 books.* **$45.00**

37391-2. THE CELTIC WORLD. *Barry Cunliffe.* Archaeological-historical survey. *Counts as 2 of your 3 books.* **$39.95**

37353. CATALOGUE OF THE UNIVERSE: A Survey of the Most Familiar and Extraordinary Objects in the Universe. *Paul Murdin, et al.* **$15.95**

42345-2. DISCOVERY OF LOST WORLDS. *Edited by Joseph J. Thorndike, Jr.* The major archaeological finds of the past 300 years. *Counts as 2 of your 3 books.* **$34.95**

41355. CURIOSITIES OF THE PLANT KINGDOM. *Reinhardt Hohn.* A survey of mysterious plants (poisonous, carnivorous, rootless). Packed with photographs. **$25.00**

32900-2. AMERICAN RIVERS: A Natural History. *Bill Thomas.* A textual and photographic exploration. *Counts as 2 of your 3 books.* **$30.00**

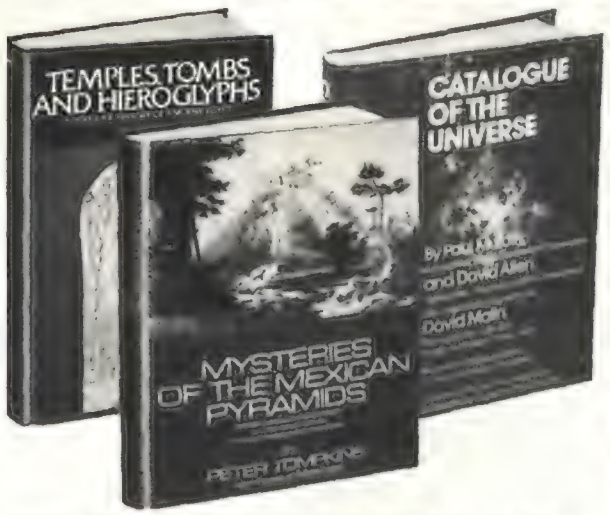
82771-2. TEMPLES, TOMBS AND HIEROGLYPHS/RED LAND, BLACK LAND. 2 introductions to Egyptian history. *Counts as 2 of your 3 books.* **$25.90**

41510-2. THE DANCE, ART, AND RITUAL OF AFRICA. *Michel Huet, et al.* Outsized. More than 250 photographs. *Counts as 2 of your 3 books.* **$35.00**

36395. BLACK HOLES, QUASARS AND THE UNIVERSE. *Henry L. Shipman.* Exploration of the frontiers of astronomy. **$15.50**

69328-2. PLANETS AND MOONS/STARS AND NEBULAS. *William J. Kaufmann III.* Two books. *Counts as 2 of your 3 books.* **$26.00**

44960. ENCYCLOPEDIA OF PREHISTORIC LIFE. *Edited by Steel and Harvey.* Nearly 300 illustrations plus biographies of Darwin and others. **$24.95**



35506. BACKPACKING EQUIPMENT BUYER'S GUIDE/WALKING SOFTLY IN THE WILDERNESS: The Sierra Club Guide to Backpacking/SIMPLE FOODS FOR THE PACK. *Softcover. The 3 count as one book.* **$19.85**

79975. THE SPOTTER'S GUIDES. Six hardbacks, field guide size, full color; Birds, Trees, Wild Flowers of North America, Shells, Rocks and Minerals, The Night Sky. *The set counts as one book.* **$23.70**

47210. THE EXPLODING UNIVERSE. *Nigel Henbest.* Explores everything from stellar mechanics to planetary composition. Well illustrated. **$19.95**

34730. THE ATLAS OF EARLY MAN. *Jacquetta Hawkes.* From prehistory to the Roman Empire. Charts and illustrations. **$20.00**

87750. THE WORLD OF DINOSAURS. *Michael Tweedie.* **$14.95**

67611. THE PEACEABLE KINGDOM: A Loving Look at the Family of Animals. *Guilfoyle and Ricciuti. Audubon* editor selects the 140 best nature photographs (80 in full color) to illustrate the life-cycles of the animal kingdom. **$20.00**

36875. BROCA'S BRAIN: Reflections On The Romance Of Science. *Carl Sagan.* Account of recent astronomical discoveries. **$12.95**

60552-2. MARINE LIFE: An Illustrated Encyclopedia of Invertebrates in the Sea. *David and Jennifer George.* Contains 1300 color photographs. *Counts as 2 of your 3 books.* **$40.00**

44955. THE ENCYCLOPEDIA OF MUSHROOMS. *Dickinson and Lucas.* Biology of over 450 varieties plus how to find, identify, cook and treat for poisoning. Over 400 full-color photographs. Outsized. **$25.00**

85095-2. UNDERWATER WILDERNESS: Life Around the Great Reefs. *Carl Roessler.* Full-color photographs, plus excellent text. *Counts as 2 of your 3 books.* **$35.00**

55001. ILLUSTRATED ENCYCLOPEDIA OF ASTRONOMY AND SPACE. **$17.95**

61610. MAYA: The Riddle and Rediscovery of a Lost Civilization. *Charles Gallenkamp.* **$15.95**

43953-2. THE EGYPT STORY: Its Art, Its Monuments, Its People, Its History. *Maroon and Newby.* Outsized. 200 full-color photographs with text. *Counts as 2 of your 3 books.* **$39.95**

57848. THE LAST NOMAD: Adventures in Remote Deserts, Mountains and Marshes. *Wilfred Thesiger.* "Superlative photographs, great value."—*New York Times Book Review.* A record of the last generations of an ancient civilization. **$22.95**

35493. BABYLON. *Joan Oates.* Illustrated with 137 photos, maps, and drawings. **$16.95**

44930-2. THE ENCYCLOPEDIA OF IGNORANCE. *Edited by Duncan and Weston-Smith.* 58 renowned scientists highlight topics ranging from evolution to black holes. *Counts as 2 of your 3 books.* **$30.00**

84246. THREE ADVENTURES/LIFE AND DEATH IN A CORAL SEA/DIVING COMPANIONS. *Jacques-Yves Cousteau and Philippe Diole. The 3 count as one book.* **$23.85**

If the reply card has been removed, please write to
Natural Science Book Club
Dept. 4-AD2, Riverside, N.J. 08370
to obtain membership information and an application.

NOBODY CAN GIVE YOU THE INDIA WE CAN GIVE YOU. EXTRAORDINARY.

Because we give you two things nobody else has.

The fastest flights to India.

And more tours.

Tours to the people, the mystery, the art, the architecture, the beauty of India. Our 'India Tour Digest' tells you all.

See your travel agent or send us the coupon.

Air-India
400 Park Ave., New York, N.Y. 10022
Please send me your 'India Tour Digest.'

Name

Address

City

State, Zip

My Travel Agent

S8

AIR-INDIA

THE AIRLINE THAT'S DIFFERENT. AND BETTER.

400 Park Ave., New York, N.Y. 10022.
Toll-free numbers: Continental U.S. 800-223-7776;
N.Y. State: 800-442-8115; in N.Y. City: (212) 751-6200

do) but the first plane flown by mankind has got to know a lot about love. And then we collect a houseful of creatures to enlighten and enliven our days and my wife connects almost immediately with people at the National Zoo and the Museum of Natural History (both bureaus of the Institution), thereby saving a turtle's life, and we realize again the treasure for us all that is the Smithsonian.

I have learned an important lesson lurking around these premises: there is no better group of servants slaving in behalf of us all than the quiet people who inhabit museums. They are free of the job of *direct* education, free of the concerns of social status and commercial competition. They are permitted to study pretty much what they want. The subjects they light upon sometimes seem a bit arcane and you may from time to time fret for fear that your tax funds are poured into a kaleidoscope of oddball concerns. You may giggle at the "Golden Fleece of the Month" awards, given by Senator William Proxmire for the "biggest, most ridiculous, or ironic example" of wasting federal tax funds.

You do so at your own peril. For any society that cannot afford to keep truly curious people's minds at work will never learn the difference between being human and being a mole.

People ask questions. Dumb questions, sophisticated questions, never mind which: the Smithsonian is charged with answering them. It says here "the increase & diffusion of knowledge among men," a vague marching order, an overwhelming duty. Nowadays I doubt that anyone in his right mind would accept afresh such a mandate. The Smithsonian is stuck with it.

There may, for all I know, be better astrochemistry, say, or social history done somewhere in this world than at the Smithsonian. But where else would you come to expect as normal behavior the friendly collaboration of an African botanist and an American archaeologist on a book about South African jungles? There may be nonprofit organizations that are more efficient, charities more immediately worthy, scholars more dramatic in their presentations, causes more understandable or momentarily more compelling, but some time, brothers and sisters, when you need the kind of reminder we all need that our way of life—the American dream and procedure—is all of a part, a perfectly decent striving for excellence, it is then that you will find sustenance, understanding and delight at the Smithsonian.

How does a place like this ever work? My colleague, Ted Park, is always peering into the eclectic, multidisciplinary wisdom of this place and will continue to do so. Read him carefully, please.

That advice should be enough, but before heading off to the territories (as Huck Finn put it), I have to ask again, what *is* this place? It remains an enigma, born in the brain cells of a little-known Englishman, James Smithson, operated for almost 140 years by the pragmatic Americans—a race not known for being kindly to this sort of monument. Indeed, one gets the feeling that most American monuments are awaiting the wrecker's ball, that the wrecker's ball might well replace the eagle as our national symbol.

Not here.

And that's the essence of your national collection, the Smithsonian. The people here spend most of their lives collecting the real stuff of our lives so that we can truly know where we have been. They'd rather have an actual campaign banner from Teddy Roosevelt's Presidency than give you a blended and aerated version of American heroism. There are hundreds of people here like that and they exist—squabbling and thinking—in greater concentration than anywhere else in this land and, frankly, that makes me feel good.

Old Smithson, the French-born illegitimate son of a Duke of Northumberland, had one hell of a good idea.

—James K. Page jr.

Picture credits

Cover George Silk; 12 Christopher Myline/Ardea; 22-24 Robert Jakocko; 28-37 George Silk; 38 Morris Rosenfeld & Sons, Inc.; 39 Culver; 40 BBC Hulton Picture Library, from *Lipton's Autobiography*, Duffield & Green, New York, 1932; 41 Culver; 42 Granger Collection; 44 Bettmann Archive, BBC Hulton Picture Library; 45 BBC Hulton Picture Library, Granger Collection; 46, 47 Morris Rosenfeld & Sons, Inc.; 48-57 Gordon Trice; 60-64 Christopher Springmann; 68-73 Enrico Sarsini; 74 Enrico Sarsini, Derek Bayes; 75 Derek Bayes; 76-79 Tanya Berry; 80, 81 Tanya Berry/courtesy Rodale Press, Emmaus, Pennsylvania; 83 Tanya Berry; 84-89 Adam Woolfitt/Susan Griggs Agency Ltd.; 92, 93 Whitney Museum of American Art; 93 F. S. Lincoln/Whitney Museum of American Art; 94 Whitney Museum of American Art; 95 Bettmann Archive; 96 Whitney Museum of American Art; 97 Cecil Beaton/Whitney Museum of American Art; 98 Ezra Stoller; 99 Cervin Robinson; 100 Edward Steichen/Whitney Museum of American Art; 111 National Collection of Fine Arts; 112 Food Marketing Institute/*Progressive Grocer*, Museum of History and Technology; 116 John Huehnergarth.

Can you find the glue in this tree?

We at Boise Cascade haven't been able to...yet.

Trees, you see, are full of glue. It's called lignin, and it holds the wood fibers together.

This means the sheets, or veneers, we use to make plywood are already full of natural adhesives, and yet, we have to apply a glue made from crude oil to get them to stick together.

We haven't been able to find a way to fully activate the lignin those veneers are full of, to "awaken" it, make it sticky.

If we could, they'd stick together naturally, and we'd cut oil consumption and manufacturing costs.

That's why we're working with university and industry groups to find ways to awaken the lignin in those veneers. We're not there yet, but we're getting close.

Working to get glue from trees is an example of our kind of resource management, the kind that produces jobs, products, profits and thriving forests.

Boise Cascade Corporation
Wood and paper for today, trees for tomorrow.

Around the Mall and beyond

On a bright day last spring I had the pleasure of delivering a freeze-dried beaver, originally collected by James Bond, to Princess Red Wing in Rhode Island. Any questions? OK, I'll explain.

Princess Red Wing is an 84-year-old Indian who was a member of the Speakers' Research Committee of the United Nations for 25 years and attended early sessions with her friend Eleanor Roosevelt. She is also on friendly terms with our Museum of Natural History. She's a princess because she's a descendant of King Philip of the Wampanoag.

A word about Philip. He was a son of that famous Massasoit, or chief, Ousamaquin, who had befriended the Pilgrim Fathers (and Mothers, I should think) when they stepped ashore on Plymouth Rock. By 1675, Philip was pretty fed up with New Englanders. This is understandable, as I (a New Englander) have often been reminded.

Princess Red Wing expresses her thanks, Wampanoag-style, for Tomaquag.

Philip went to war with his white neighbors and after a year of mutual slaughter was defeated and killed in the Rhode Island swamplands. It was called King Philip's War, and it was a bad time.

The story goes that Philip was impressed by English titles—"Captain," "Elder," a distant, all-powerful figure called "King." He decided that as head man of the Wampanoag he rated a title himself. The best. And that all his descendants would have royal titles, including my friend Red Wing.

This talented, spunky, delightful woman runs a small museum of Indian life in a tiny village deep in the Rhode Island woods. Rhode Island *woods*? Believe me, her part of Rhode Island seems to have more woods per square mile than does the whole lumber-rich Northwest.

Red Wing's museum has some nice relics from early days when the Wampanoags and Narragansets (she is also a Narraganset) and Mohegans and Nipmucs ranged around southern New England. When local school groups come to visit, Princess Red Wing shows them how to crush corn in a wooden mortar and teaches them a bit of Indian dancing and games and tries to transmit to them a little of the respect and understanding that Indians have for nature.

It's not a big museum, but it's nice. I always think of a good museum as one I get lost in. And sure enough, after going through Princess Red Wing's modest displays, I made a wrong turn. So it's good.

The name of the museum is Tomaquag (which, as everyone surely knows, means "beaver") Indian Memorial Museum. But one thing the place didn't have was a mounted beaver. Princess Red Wing had a painting of a beaver and a beaver-chewed log, but nothing the kids could see and perhaps feel and understand.

She got in touch with a Washington woman, Barbara Wheeler Gilbert, who is a good friend—such a good friend, indeed, that she was named Netop Wampasaup, or Friendly Eagle, by the Princess and made an honorary Wampanoag. Barbara, ever loyal to her tribe, got out the old tomahawk and went after the Smithsonian. The Smithsonian is far too bureaucratic to go and stuff a beaver for just you and me, but it has some respect for an Indian princess (and a lot of respect for a tomahawk), so Gene Behlen,

Tomaquag the beaver is now dry-frozen in her museum in Rhode Island.

chief of exhibits at the Museum of Natural History, agreed that a beaver would make a fine subject for freeze-drying. The trouble was, he didn't have a spare one hanging around, gnawing at the desks.

Barbara said she'd arrange a beaver. These Wampanoags will do anything. She made contact with an Oregon trapper named James Bond (no kidding) and told him she wanted an old, sick beaver who was about to die anyway, and that she didn't want it taken during mating season. Wampanoags have soft hearts.

James Bond, with his usual good fortune, found a beaver, a female that had just been killed by a car. There was nothing wrong with her except a broken leg and a fatal rap on the head. Bond bundled up the beaver with dry ice, shipped her to Washington and presumably returned to one of his vodka martinis (shaken, not stirred; twist of lemon).

Tomaquag the beaver arrived safely and was turned over to Dr. Rolland Hower, the freeze-dry expert about whom we wrote in an article on this new form of taxidermy back in May 1971. The idea is to freeze your subject in a vacuum so that all body moisture is removed. The tissues then hold their shape, and the animal or plant or whatever looks entirely natural. About the only old-style taxidermy that Dr. Hower carries out on his frozen little carcasses is to put in glass eyes. "Natural eyes would lose color and tone," he explained to me. "All the creatures would end up looking like Little Orphan Annie."

Hower arranged Tomaquag in a good, beavery pose, fixed her leg, wired her to a base and put her through the process. After about four months her weight had gone from around 45 pounds down to 17. When it stopped decreasing, she was done. Barbara Gilbert fetched her. She

DISAPPOINTING NEWS FOR AMERICA'S 520,000 MILLIONAIRES. ONLY 1,500 BERTONE COUPES WILL BE OFFERED THIS YEAR.

In an age when anyone with money can purchase a Mercedes, BMW or Cadillac Seville, it takes a good deal more to own a Bertone Coupe.

It takes luck.

The Bertone Coupe is a limited production luxury class touring car that combines Volvo engineering with the classic Italian craftsmanship of one of Europe's most distinguished coach builders: Bertone of Turin.

To fully appreciate the results of this collaboration—the handcrafted details, the supple leather upholstery, the rich wood veneers, the superb engineering—you have to see and drive this car for yourself.

Due to the extremely limited supply of these extraordinary automobiles, we urge you to use extreme haste in visiting a Volvo dealer.

If you should have money enough and luck enough to purchase a Bertone Coupe, you'll not only have the satisfaction of owning a car that shows you've arrived.

You won't see yourself coming and going.

VOLVO

© 1980 VOLVO OF AMERICA CORPORATION.

Six reasons to retire your old slide projector.

The longer you've been into slides, the more a new Kodak Carousel projector has to offer.

Upgrading your projector can upgrade your whole slide collection in one stroke! With our top-of-the-line Kodak Carousel projector, you not only get the reliability Carousel projectors have been famous for over the years, but the many improvements that have come along since.

- Sharp, Ektanar C curved-field lens. Both normal or zoom to choose from. For brighter images with improved edge-to-edge sharpness.
- Automatic focusing. Keeps the show in focus slide after slide.
- Remote control, both forward and reverse. Even remote-focus override. For easier, more comfortable showing and viewing.
- Programmed showing. So you can sit back and relax and let the projector advance the slides at 5-, 8-, or 15-second intervals.
- Transvue 140 tray. So you can pack in a lot more slides.
- Built-in dark shutter latch. So the screen stays dark when no slide is being shown.

With eleven Kodak Carousel projector models to choose from, you can get just what you want in the way of automation, and in the way of price.

1880 Kodak *1980*

America's Storyteller

Kodak Carousel projectors.
The dependable ones.

Eastman Kodak Company, 1980

learned that I was going to New England anyway and I agreed to take Tomaquag to Princess Red Wing and so keep on the good side of the tribe. Tomaquag was safely crated, and I got her to her new home in that little enclave in the forest where surely the old Wampanoags of King Philip's day would still fit in.

Princess Red Wing treated me with regal kindness. At the official presentation, which occurred later, she arranged a special dedication and officiated in all her finery. Then everyone went to an Indian café next door to eat Rhode Island johnnycake and maple syrup and Indian pudding and applesauce and sausages. Freeze-dried Tomaquag looks great in her case. I am assured that if hot water is inadvertently spilled on her, she will *not* dissolve into a cup of beaver.

Tomaquag the beaver is dead and dry in Rhode Island, but Henry the mockingbird is alive and well in our Victorian Garden. More to the point, so are his abominably spoiled offspring. Henry (*Henricus mimus polyglottis*) is a bird of vast appetites and has sired numerous progeny since his friend Crimilda Pontes, who sits in an office up there in the castle, being an artist and designer and staring down at Henry, first started to feed him raisins (see this column, May 1978).

Now a couple of Henry's youngsters, doubtless pressured by environment and mysteriously nudged by heredity, have come to recognize Crimilda as Lady Bountiful. Like their daddy before them, they have glommed onto her as though imprinted. Like Wampanoags, they have adopted her into the *polyglottis* tribe.

When Crimilda goes out to her car in the parking lot adjoining the Victorian Garden, she is ambushed. There she is, at the end of a tiring day, and there they are—either Henry, indefatigable of appetite and utterly confident of satisfaction, or his two teen-agers, the Garden Gang.

They dance around her on furious wings. They strut on her car mirror and parade on her hood. They yell rudely at her. They pester her. They jostle her. They accost and terrorize. Crimilda, not much of a militant, allows her spirit to crumple. She hurries back into the castle for a box of raisins, enough to appease the little extortionists until next time.

But watch out, you birds: your time is coming. Crimilda has never paid much attention to those courses in Karate, Tae

Kwan Do, Kung Fu or Meditation with which women sometimes arm themselves against violence. But times are changing. She tells me that with a little more practice she'll be able to meditate the hell out of Henry and his rotten kids.

Magazines are sometimes apt to mention their far-flung subscribers. It turns out that we have one who got flung pretty far, possibly the farthest of all. His name is Ian Cannon and he's a retired engineer whose address is Waitangi, Chatham Island, New Zealand.

Mr. Cannon wrote a note to our subscription people which, since it wasn't a complaint, they read with special gratitude. He said he chose his retirement home "because of its isolation and simple type of living."

Isolation: the island is some 500 miles off the east coast of New Zealand. Chatham Island is one of a small group called the Chatham Islands and their nearest neighbors on my atlas are the Pitt Islands, a bit to the southeast. Due east, Mr. Cannon isn't going to hit land until he sloshes ashore on Chile.

Simple: Mr. Cannon has no municipally provided power, no water mains, no stock brokerage, no TV, one post office, one shop, one tax. He generates electricity with a Diesel engine, traps rain water in a big tank, cooks on bottled gas and depends on a once-a-month steamer and twice-a-week air service for stores—including his slightly rumpled SMITHSONIAN. I find it encouraging, somehow, that he gets along without a stock brokerage.

Our subscriber says his life is pretty quiet, but his radio reception is great. He can even pick up CB transmissions from the States, if that's considered good.

"What with gardening and fishing and maintaining myself, my days always seem very full," he writes. He indulges his hobby, the building and flying of radio-controlled aircraft and boats, which makes him popular with the youngsters.

Mr. Cannon sent us a photograph of the bay where he lives—the water is 60 feet from his door. You can see the shed where his generator is housed and also a small car. I suppose he uses it to drive to the store and the post office. But not to Christchurch, New Zealand, nor Tonga Island, nor Washington, D.C.

There may be other readers equally isolated. An interesting concept, today.

—EDWARDS PARK

SALE! "Chinese Rose"

Was $14.98! Classic Oriental pattern—exquisite blossoms and birds in rich multihues on antique white glaze. English earthenware by Old Foley of Staffordshire, cast in the original Victorian mold, enchanting on table or collector's shelf. Our own import from James Kent, dishwasher-safe, 7½" tall, holds 1 qt.
6071 "Chinese Rose" Pitcher . . . $13.98

Add $1.50 post. & hdlg. NY res. add taxes
Master Charge, Visa: send card no., exp. date

LILLIAN VERNON®
Dept. T83, 510 S. Fulton Avenue
Mt. Vernon, NY 10550

Order Now!
GUMP'S
1980 Gift Book

GUMP'S

For the holiday season: Gump's 80-page, full-color gift presentation of 500 items selected from the corners of the world. Orientalia, jewelry, jade, china, silver, crystal, modern gifts, fashions and objets d'art. Reserve your copy NOW for September mailing.
$1 a copy including 3 supplementary books in 1981.

GUMP'S, DEPT. 529, 250 POST,
SAN FRANCISCO, CA 94108

Please send me ( ) 1980 holiday Gift Books; $1 each, enclosed.

Name_____

Street_____ City_____

State_____ Zip_____

18th Century Furniture Kits
Solid Wood & Solid Brass

WINDSOR CHAIR
CIRCA 1760

Two of the 27 Bartley classics, in hand-crafted solid mahogany, ash, or cherry. Totally authentic in design and beautifully constructed. Each kit is easily assembled and finished in your own home.

BLOCK FRONT CHEST
CIRCA 1760-1780

FREE CATALOG WITH COUPON

The Experts' Choice

SEND ME YOUR COLOR CATALOG. I WANT TO BUILD THE BEST.

Name _____

Address _____

City/State/Zip _____

The Bartley Collection, Ltd.®
747 Oakwood Avenue, Dept. S-32, Lake Forest, Illinois 60045

Let LIFE bring the world to your door-

July 1979. *The Moon Men Now.* LIFE reports on the original astronauts ten years later.

August 1979. *The Equator.* LIFE looks at the rich and varied life along latitude zero.

November 1979. *Here's The Church But Where Are The Steeples?* Work resumes on St. John the Divine.

December 1979. *Ten Years.* The visit of Pope John Paul II as LIFE reviews the past decade.

March 1980. *The Mighty Mickey.* A great old pro burlesques it up on Broadway.

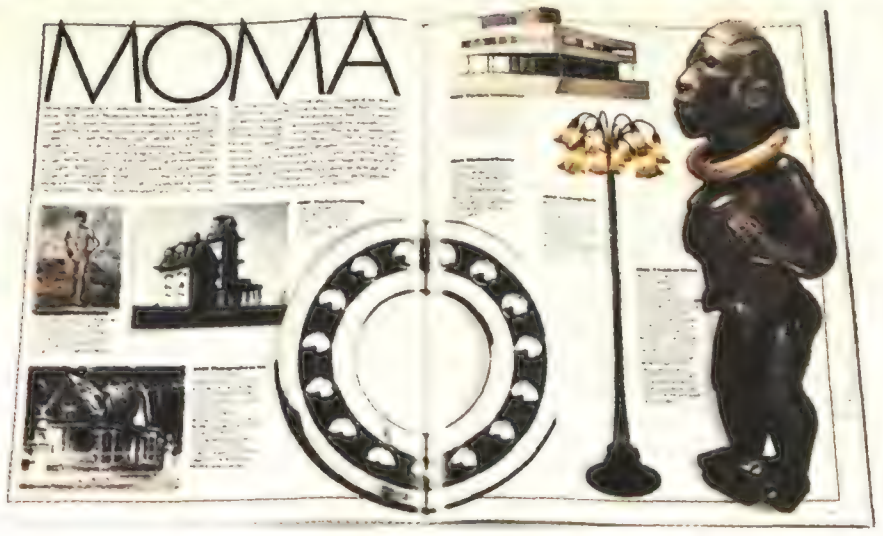
April 1980. *Beginnings of Color.* LIFE uncovers exquisite images of early color photography.

Sign up now for a full year of LIFE– 12 monthly issues delivered right to your door for only $18.

Now you can discover each month why no other magazine can equal the color and excitement of LIFE. In every issue, you'll find page after page of breathtaking photography and award-winning journalism – a feast of images and insights that will take you from the realm of current events to the frontiers of the unexplored. And you'll save 50¢ per issue at the basic LIFE subscription rate of $18 for 12 monthly issues – a total savings of $6 per year. For a life-size view of the people, places and history-making events in the world today, get the big picture every month in LIFE Magazine.

Send for your subscription now – and let LIFE bring the world to your door.

and get *LIFE: The First Decade* free.



September 1979. *MOMA.* New York's Museum of Modern Art celebrates 50 years of creativity.

October 1979. *What Horses Say To Horses.* LIFE provides a surprising view of equine behavior.

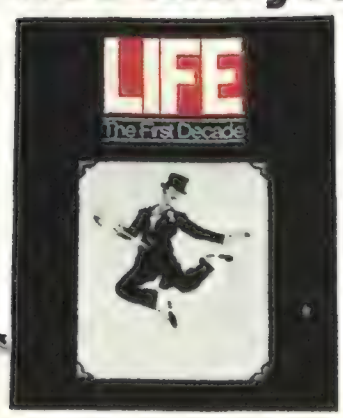
January 1980. *Houtex.* LIFE focuses on rich-to-bursting Houston in a look to the 80's.

February 1980. *The Making Of The President Ain't What It Used To Be* by Theodore H. White.

May 1980. *The Russia We Never See.* Smuggled pictures portray Soviet life with stark candor.

June 1980. *The Deadly Justice of Revolt.* LIFE reveals extraordinary scenes from Liberia's coup.

If you order now–We'll send you *LIFE: The First Decade* absolutely free with your paid subscription.



LIFE: The First Decade is an extraordinary volume of the most famous photographs from the first ten years of the original LIFE Magazine. This superb collection contains over 200 pages of the most memorable images of the time, captured by the world's greatest photographers. *LIFE: The First Decade* is a thrilling visual journey through a remarkable period of world history – and it's yours FREE with a year's subscription to LIFE Magazine.

S8

LIFE
TIME-LIFE BUILDING
541 NORTH FAIRBANKS COURT
CHICAGO, ILLINOIS 60611

Yes, send me a year of LIFE – *and*, with my paid subscription, my free copy of *LIFE: The First Decade*.
12 monthly issues for $18 ☐ Payment enclosed ☐ Bill me
(Basic subscription rate is $1.50 per copy. The cover price is $2. You save $6 on a one year subscription.)

Name _____

Address _____ Apt. No. _____

City _____ State _____ Zip _____

Signature _____

I prefer: ☐ 8 monthly issues for $12 ☐ 16 monthly issues for $24

Please allow 60 days for delivery of first issue. Rates good in U.S. only. **Or call toll free: 800-621-8200 (In Illinois 800-972-8302)**

By Michael Harwood

Dawn to dark, day in and day out, tern study is a labor of love

On a remote island, eager volunteers band, weigh and observe these graceful birds—and in the process learn what science means

Last summer the author spent a week on Great Gull Island in Long Island Sound with 19 professional and volunteer ornithologists, studying not birds but the people who study birds and how they do it. He learned something about how much time and effort it takes to discover even basic facts about the natural world—and also something about the special breed of people who are attracted to such work. This article is adapted from his journal of that week.

It is late afternoon on June 8: Captain John Wadsworth backs his party fishing boat *Sunbeam* away from her slip at Waterford, Connecticut, and points her toward the highway bridge and the railroad drawbridge. He waves briefly to the drawbridge operator as we pass into Niantic Bay, headed for the Great Gull Island research station nine miles across Long Island Sound. For me simply being on board the *Sunbeam* southbound toward Great Gull starts the adrenalin flowing. Behind us is the cluttered, machine-noisy mainland; ahead is a small universe dedicated to bird research.

Besides photographer George Silk and myself, three young volunteer fieldworkers are going with us. Also aboard are assorted duffels, binoculars, telescopes, sleeping bags, two cots and—for some wise person—a box spring and mattress. The living conditions on the island are primitive: no running water, no electricity, no warm bunks in nice dormitories. The research station was established 30 years ago in the Army's old Fort Michie, a coastal defense station first built circa the Spanish-American War and rebuilt and rearmed sporadically through World War II. After that, the War Assets Administration gave the 17-acre island to the American Museum of Natural History in New York, and the Linnaean Society of New York—an organization of professional and amateur naturalists—volunteered to manage the island as a refuge and research station. Salvage, theft, vandalism and Mother Nature all combined to reduce the fort rather rapidly to ruins. Most of the fortifications still stand, but only one of the remaining brick buildings is more or less weathertight; the other two are where the research crew sleeps.

In summer the place is home to a clamorous blizzard of common and roseate terns—thousands of them, up from southern waters to breed. The terns nest in riprap along the shore, on the rubble-littered beaches, in sparse, short grass, around the edges of the concrete floors of former buildings and on the concrete roofs of huge underground caverns. Right now they are reach-

Terns mill above early morning trap setters. Structures are blinds used for studying banded birds close up.

Photographs by George Silk

Exhaustive study leaves no tern unknown

Seated in front of one of Great Gull's crumbling fortifications, researcher puts bands on chicks.

ing the peak of egg hatching, and George Silk and I are headed out to join the director of the Great Gull Island Project, Helen Hays (not the actress but the ornithologist, as her friends say). It's been five years since I last worked there.

We come up from the dock—under screaming, diving waves of terns, past the sagging concrete watchhouse, past stacks of wire-mesh traps used to catch terns for banding—to the island's headquarters, a dingy, low brick building securely nestled in the lee of a former two-gun battery. They call the headquarters the Carpenter's Shop in honor of the Army's last apparent use for it. In one room are two camp stoves on a small table, a couple of long tables, benches, chairs, food chests, shelves: this is the dining hall. Next door is the main birdbanding room and office, with several desks and a big white table strewn with the tools of a busy tern-banding operation. An oil-drum wood stove and a woodbin stand in the far corner: this is where researchers live and sleep in cold weather. Beyond this banding room is a second one, for handling all birds but terns.

When we arrive, most of the crew are seated around the tables in the dining room, working on something called "pair cards." At first look a pair card is mystifying. Printed on both sides of the four-by-six card are rows and rows of numbers—one through 100 four times to a side. A member of the crew is reading out numbers and everyone else is circling them on his card.

A number for every nest

"We're pair trapping common terns," explains Helen Hays, "and this is how we keep track of which pairs we've trapped and which we haven't. We're trapping on the nests, and the numbers they're circling are nest numbers." (Every one of the more than 2,000 common tern nests on Great Gull is marked with a numbered tongue depressor, stuck in the ground beside it.)

Pair trapping, she tells me, is part of an ambitious effort, now several years old, to mark most—ideally, all—common terns in the island's colony. By the end of this summer more than 90 percent of them will be wearing colored four-band combinations—two thin plastic rings on one leg and a plastic ring and a U.S. Fish and Wildlife numbered aluminum ring on the other. The variety of colors and arrangements of bands make each bird identifiable. With all these marked birds, behavioral studies can be done on a grand scale.

"Here's your pair card," says Helen. "You'll be working with me. We'll start to trap in a few minutes. Common tern pairs share the nest duties so we trap at changeover times, morning and evening, and hope we get both birds in a single trapping session."

This means, I discover, that days on Great Gull are

As tern gets ready to strike, Helen Hays checks a mesh trap, set over a nest with newly hatched young.

Unlike the less aggressive roseates, commons bombard crew with excrement and hammer hats with beaks.

now even longer than I remembered. Most of these people were up before sunrise and, at a time when ordinary folk are usually through for the day, they are just starting another three-hour chore.

Helen and I and a young volunteer form one of half a dozen parties, each group assigned to a section of tern-nesting territory. We set traps over nests that hold recently hatched young; then we wait at the Carpenter's Shop for about half an hour and go back to pick up parent birds that have returned to the nests and been caught. Each tern caught is delivered to headquarters in a numbered cloth bag, which keeps it quiet and allows us to carry a dozen or so apiece (right).

Now about 15 workers are crowded at every available space in the main banding room. Each person at the table holds a tern gently in one hand (birds are quietest held belly up) and juggles bands and banding pliers with the other. Then it is placed head down in a paper cone for weighing (p. 35), and at last is released out-of-doors.

Nina Pierpont, a biology major at Princeton, arrives at Carpenter's Shop with a tern in each numbered bag.

An angry tern attacks red stick in hat of unsuspecting crew member, Alison Nash, as she holds mesh trap.

Volunteers put long feathers or sticks on hats because birds attack the highest point in their line of fire.

After our second retrieve of the evening, the traps are taken off the nests, the second wave of terns is banded and the volunteer in charge of data immediately convenes a meeting to review the night's records, critique the methods, delete errors and clear up confusions. By now the sun has long since set and dusk is fading into blackest night; candles are lit in the dining room.

Of the 19 other people in the research crew this weekend, three are career ornithologists—Helen Hays, David Duffy (who has been a summer volunteer on the island since he was 16—more than ten years ago—and is about to become resident ornithologist at the Charles Darwin Research Station in the Galápagos) and Malcolm Coulter, a Frank M. Chapman Fellow at the American Museum of Natural History who is trying to find out why some terns are successful parents. The other 16 are high school and college students, all volunteers. A high school freshman is the youngest—Jimmy Windels, a slim, quiet, 13-year-old redhead who has never done any fieldwork until tonight.

Helen proselytizes during the off-season while she raises funds to support the project, giving her talk and showing a film. Word of mouth—reputation—helps. She is regarded as a first-rate teacher, and she also hands these volunteers responsibilities virtually the moment they get off Captain John's boat.

There is some discussion of black-crowned night herons, called "woks" out here for the low, raspy call they give in flight. Woks can do a lot of damage in a tern colony. They weren't a serious problem the summer I was on the island, but Helen estimates that last year they halved the colony's usual crop of fledged young. She says the situation is no better this spring. The woks find a well-stocked section of ternery and browse through it, gorging themselves on eggs and young. A volunteer stood guard last night to ward off the marauders. One was killed; its stomach held 18 tern chicks—a single meal, doubtless unfinished, for a single heron. It wouldn't take much of that kind of feasting to account for hundreds of birds.

The woks keep cropping up in conversation here. Dave Duffy is working on an experiment to discover whether the handling, weighing and measuring of tern chicks affect their growth and survival rate. He's collecting data on chicks handled every one, two, three or eight days. "I have four areas I'm covering," he tells me. "I had a fifth, but a wok decided to participate in the study."

At dawn the sky pales and brightens in the east. Bodies in sleeping bags begin to stir in the ramshackle

Michael Harwood has written a book on the island, The View from Great Gull. *His new book, with Mary Durant, is* On the Road with John James Audubon.

As part of courting ritual, terns assume erect posture with bills raised, tails tilted and wings drooped.

Black-crowned night herons, like this one perched above yellow-crowned relative, wreak havoc on chicks.

Eager chick charges out from grass hideaway to meet lunch-bearing parent. The fish will be eaten head first.

sleeping quarters. I know as I wake what this long day holds: three hours of pair trapping, then breakfast, then fieldwork (for many of us that means the Chick Check detail, which makes a daily circuit of the island's ternery, banding chicks, counting nests and eggs and chicks hatched or dead or vanished), then lunch, then more fieldwork, maybe a break for a couple of hours but probably some such chore as trap repairing, then evening pair trapping, supper and back into the sleeping bags.

Helen has been up since long before dawn, doing paper work by candlelight at her desk in the main banding room. This is her 15th season on Great Gull, her tenth as director. As we go out for the dawn trapping, I ask her if she ever gets tired of the terns. "No," she says without hesitating. "But when they're gone, in August, the silence is wonderful, and you realize how much tension you've been under—like when a hard wind finally stops blowing. They press you to do things all the time."

In midmorning, Helen puts on a flowing straw hat of what appears to be Caribbean tourist-trade heritage and leads a troop of us to South Beach for the start of Chick Check. The remaining members of the research crew have other projects—with terns, spotted sandpipers, yellowthroats, barn swallows. One group is going off in the project's small secondhand motorboat to trap and band terns at colonies elsewhere on the Sound.

In dining room, Helen Hays (left) reads nest numbers from notebook, as others record them on pair cards.

A scene right out of Hitchcock

All the Chick Checkers are wearing straw or cloth hats, stained and splattered with tern excrement, to protect their heads against the onslaught of attacking terns. The terns can strike hard—one particularly aggressive bird is nicknamed "Killer"—and even the hats don't protect you from a sore head. (Researchers used to wear pith helmets, but then Helen noticed a bent bill on a tern and suspected the helmet had done the bending, so now it's soft headgear only.)

Many Checkers have carpenter's aprons tied around their waists, providing capacious pockets to hold a lot of necessary gear. Around their necks or tied to belts are strings of plastic chick bands: common terns get one band right after hatching, then a four-band combination when their legs have grown long enough. In a ragged foraging line, assaulted by screaming, swooping adult terns, we work along the stony, brick-strewn beach, around the edges of the old concrete floors and the roofs of the underground caverns. We find new nests (usually just a shallow scrape in the sand with an egg in it) and mark them with the prenumbered wooden tongue depressors. We number all new eggs with felt-tipped pens, so that the order of egg laying and hatching is known for each nest. (Common terns generally lay two or three eggs in a clutch.) We find newly hatched chicks; they are banded, weighed in little plastic bags clipped to pen-size spring scales, then returned to their nests. The crew shouts above the screaming of the terns—nest numbers, egg numbers, band numbers, chick weights, while Helen Hays and an assistant—my job today—jot down the information.

Jimmy Windels carefully holds and bands captured tern. Prestrung band combinations are in foreground.

The day has become blazingly hot, and Helen urges

Male is put head down in paper cone for weighing. Disheveled feathers will later be preened by bird.

Deformed chicks like this were common in early 1970s but are now rare thanks to antipollution controls.

her crew to keep moving so that tern chicks are not left unshaded and unfed by their parents for long. Keep moving—but carefully, because the way is full of well-camouflaged little brown-and-tan feather puffs that do not survive being stepped on.

At lunch it is plain that everyone has been dazzled, stupefied, by the long Chick Check in the hot sun. And the job is only two-thirds done; we still have the west end to cover.

All meals are makeshift here, and lunch particularly so. There is no refrigeration on Great Gull. Perishables are kept in a dark, cool room deep in the concrete warren beneath the former gun battery that looms over the Carpenter's Shop, but food doesn't have an extended survival there. The crew depends mostly on dried or canned goods, although some fresh food is brought out on the *Sunbeam* on Friday nights. And because mealtimes coincide with hours dedicated to fieldwork, the preparation of food is low on the list of priorities—unless you count the invention of appalling mixtures for sandwiches at lunch. This is a Gull Island tradition, legitimized in the early days of the project by one of the older members of the Linnaean Society, who said a friend of his commonly ate sandwiches of peanut butter, grape jelly and sardines. Gull Islanders have come up with their own bizarre combinations and have painted the resulting menu on one wall of the dining room. We have the Hays No. 1, for example —peanut butter, mayonnaise, Tabasco, egg salad and a hot dog; or the Coulter No. 2—peanut butter, grape jelly, honey, mayonnaise, tomato, herring, tuna, Tabasco and raisins.

At 10:30 P.M. some of these early rising, long-working, superactive folk are still up, as if their engines won't switch off. They are talking or updating pair cards by candlelight. At a corner of the dining table Dave Duffy gives Nina Pierpont a realistic rundown of career categories in biology, to get her thinking about what precisely she might do once she's earned her doctorate. In ornithology, for instance, jobs are scarce nowadays. "A hundred and fifty people apply for some jobs," says Dave. Women, he thinks, have an advantage in the job hunt; everybody's on the lookout for good female candidates. But even for them it's a good idea to develop specialties in areas that will have interest—and funding—in the future.

Roseates nesting in the riprap

Next morning it is cloudy. The Gull Islanders trickle slowly out of the dilapidated sleeping quarters. As is his habit, the Chapman Fellow, Malcolm Coulter, is up early doing last night's dishes at the basin outside the Carpenter's Shop. The crew members collect around the red-and-white checkered table inside, drinking coffee and tea, eating doughnuts, a few working on pair cards in preparation for the morning trapping. I admire their groggy willingness.

On this day's Chick Check, Helen has the sunburned Jimmy Windels crawling into crevices in the granite riprap, checking roseate tern nests. ("Cave nesting" by roseates is not usual behavior, although they are known to prefer more protected areas than common terns. And no one has a completely satisfactory ex-

Exhaustive study leaves no tern unknown

planation why the birds would choose to nest among the tumbled chunks of granite here.)

"Well, James," says Helen cheerily as he catches up with the rest of us, "what's your report?" "Lots of three-egg clutches," he says matter-of-factly, "but no hatching." These young volunteers fall quickly into the lingo and the job. Helen's even had a ten-year-old on the island this year—most unusual, but he is a cousin of one of the regular volunteers and Helen says, "You wouldn't have *dared* treat him like a ten-year-old. He did a full load of work, crawling around in the rocks looking for roseate nests. He was terrific—the perfect size. He got into places no one else could go, of course. He'll be back next weekend."

Dave Duffy talks to the terns—we all do out here—and as he parts the grass to find hidden chicks he says in a jolly, companionable, avuncular way, "Well, here all you chickabiddies are."

The birds are "family." They are constantly being handled and watched and protected and talked to. The crew clears new nesting territory for them—"tern farming," I call it—by ripping up thickly grassed turf, where they won't nest, to expose bare ground, where they will. And because tern chicks are extremely vulnerable to hot sun, we build little shelters for them near their nests from stones and driftwood.

Some of the birds are even more closely watched in one research project or another, or they have outstanding individual characteristics; so, they may get code names and nicknames. And when the well-fed chicks grow big, they are known not as preflying juveniles but as Elephants. When they are learning to fly, they are not fledglings but Orvilles.

Bright and northwesterly today. I have tagged along with the off-island banding team, led by David Evans and Matthew Male (the designer and namesake of Great Gull's bird blinds, M-1 to M-25). On Hicks Island, we set traps and retire to the narrow lee beach to eat lunch. As advertised, the tern colony here is much less aggressive and tenacious than the one on Great Gull, and the birds are often off their nests and up in a hovering crowd. This island is probably a lot like Great Gull before the Army came. It's a small ridge of sand, horseshoe-shaped, with beach grass over most of it and patches of roses in bloom. Presumably it's more "suitable" for tern nesting than the present ruin and rubble of old Fort Michie.

The trapping and banding—limited by the number of available people and traps, and unharried by tattooing terns—is far more relaxed than on the mother ship. We band birds and reset traps and wait on the beach below, eating, reading, skipping stones in the bay.

The next day on Great Gull, we find that the night raids by the herons have spread to South Beach. As soon as we start Chick Check this morning, the reports are called to Helen from all around her: "Nest 1321, Helen, three eggs missing." "Nest 1361, empty." "Nest 1101, three eggs gone." "Nest 1235 has been wokked—two eggs missing."

In the afternoon, as we move toward the west end, we find an orange plastic human figure, a little bigger than a tern chick, lying on a rock. It has been mutilated and has lost a couple of limbs. Someone has drawn a balloon beside it on the rock and in the balloon is written, "I WAS WOKKED."

The plodding pace of real science

When George and I arrived six days ago the research crew had banded 130 pairs of common terns. As of midday today the pair total is 646. Such impressive results come from having a big crew on the island. "This is the most complete coverage we've ever had," says Helen enthusiastically. ("Yes," Dave Duffy adds dryly, "between us and the night herons.")

But much of what these people have done merely lays the groundwork for more studies of tern behavior—and that indicates the pace of the enterprise. Over the life of the Great Gull Island Project some noteworthy discoveries about birds have been made, most of them the result of plodding work—thousands of hours of Chick Check and pair trapping, thousands of hours of watching nests from observation blinds, of weighing and measuring birds, of collating data.

The information eked out is as "basic" as the annual mortality and life expectancy of terns, now known from the many years of banding; population dynamics of the colony and breeding success of different age groups; the movement between colonies. Other discoveries were less routine, including hybridization between common and roseate terns and chick defects traced to chemical pollution. While most of the work

concerns the terns, other birds are not neglected: papers written with Great Gull Island data first verified sequential polyandry in spotted sandpipers and polygyny in yellowthroats.

The terns are the center of the work, however, and the most important product is the accumulation of ordinary details—foundations for future studies—about nest materials, predators, behavior, egg numbers, growth rates, food, calls, survival percentages and the like. These details are drawn from successful breeding years and poor ones, influenced by a variety of weather patterns, over a stretch of time in which both habitat and bird populations changed.

Captain John and the *Sunbeam* will be here shortly, bringing supplies and new members of the crew, taking on passengers for the return trip—among them George Silk and me.

I hate to leave. For those of us who work in biology or ornithology, or who write about the environment, the sort of study that goes on at Great Gull appears crucial to Man's potentially sane relation to his planet and coplanetarians. Talking to a young volunteer one midday, I made some comment about a distinction between Great Gull and the real world back on the mainland. He shrugged and said, as if it were obvious, "*This* is the real world."

After a tern is successfully trapped, bagged and banded, volunteer Chris Davis releases it.

More than 90 percent of common terns on Great Gull have been banded, so in-depth studies can be done.

By A. B. C. Whipple

Sir Thomas Lipton lost 'the ould mug' but won our hearts

During 31 years of his extravagant challenges for the America's Cup, the canny 'Sir Tea' became a sporting hero in the United States

Shamrock IV, background, leads *Resolute* in 1920, when Lipton came closest to winning the series.

This September, two beautiful sailboats meet off Newport, Rhode Island, in a match that may be more symbolic than exciting. It is another challenge for the venerable America's Cup, the 24th in a period of 110 years. Not once since the trophy was won in 1851 by the schooner-yacht *America* has a challenger been able to take it from the oak table to which it is bolted in the New York Yacht Club.

In a century of yacht racing so expensive that the contending boats are nearly always supported by syndicates, the matches are memorable for the idiosyncratic yachtsmen who have gone after the Cup. This year marks an anniversary. It was 50 years ago that the most colorful contender of them all completed the longest-running challenge for the America's Cup. Sir Thomas Johnstone Lipton—"Sir Tea," as he became known to millions of doting Americans—first attempted to "lift the ould mug" in 1899, and gamely carried on his quest for 31 years, spending an enormous fortune on five beautiful Cup contenders, losing every match, and in the process winning the hearts of Americans who fondly but vainly hoped he would win the "Lipton Cup," as they began to call it.

Not the least of the many ironies in his campaign was that he never set foot aboard his racing yachts during any of the matches and didn't know a forepeak from a mountaintop. To yachtsmen, Lipton is known as the great sportsman who rescued the America's Cup tradition from drowning in a sea of recrimination.

The yachtsman blamed for it was an Irish aristocrat with the visage and disposition of a hawk. Windham-Thomas Wyndham-Quin, fourth Earl of Dunraven, after losing a close-fought series in 1895, returned home to protest that he had been cheated. The charge outraged the Americans.

Enter Sir Thomas Lipton, son of Irish parents who had fled the Great Potato Famine in 1849 (a year before his birth) to settle in Glasgow. While Dunraven had been a skilled helmsman since childhood, Lipton had only recently taken up yachting, and in a steamer at that. And while Dunraven regarded the former colonists as being only slightly above contempt, Lipton loved the United States.

He had got his start there. Arriving in New York at age 15, with less than eight dollars in his pockets, he immediately conducted his first business venture in the New World by rounding up a dozen of his fellow passengers for a boardinghouse owner in return for a week's free rent.

For three years young Tom worked as a fireman, a streetcar motorman and a harvester in Virginia tobacco fields and South Carolina rice paddies. At 19, back in New York, he found his true calling: an assistant in a prosperous grocery store. He began to make a comfortable wage, enough to mail a portion of his earnings to

Sir Thomas, now a multimillionaire, shows off all his trademarks—yachting cap, polka-dot bow tie, tiny goatee.

SIR THOMAS J. LIPTON
NEW-YORK

An early cartoon shows one of the "orphan pigs" headed for Lipton's store to join its parents.

This Lipton's shop, one of many, opened on Jamaica Street in his native Glasgow in the 1870s.

his parents in Glasgow. He became fascinated with American advertising, and was soon improving on it. In 1869, he returned to Glasgow.

He arrived home on a Saturday; the following Monday he was at work in his father's grocery shop. When a steamer from America, behind schedule and making a quick turnaround, unloaded a cargo of groceries on a Glasgow dock, Lipton offered to buy part of the cargo at a bargain price, and sold it at an £18 profit. On his 21st birthday he opened his own grocery. He waited on his customers in an always-crisp white apron, closed the shop temporarily to make deliveries or do his own purchasing, and often slept under the counter at night.

At a time when advertising was in its infancy in Britain, Lipton's "stunts" soon caught the eye of everyone in the city. His shop window attracted attention with a cartoon depicting a tearful pig—the rest of the pig's family had "gone to Lipton's," the poster explained, and this fat, juicy "orphan" was about to join them (above). Succulent porkers were thereupon paraded through Glasgow's streets under a sign identifying them as "Lipton's Orphans." On their sides were signs proudly proclaiming, "I'm going to Lipton's. The best shop in town for Irish bacon!"

Other cartoons in the now-famous shop window portrayed angry hens "on strike because of the low price of eggs" at Lipton's. The canny young grocer even made his customers a part of his advertising campaign. At the shop door Lipton installed two full-length trick mirrors. A concave one reflected the customer as unnaturally slim and was labeled, "Going to Lipton's"; the convex mirror, reflecting a fat cus-

Tea advertisement of about 1890 emphasizes prices. Before Lipton, only the rich drank tea; the poor drank beer. Sir Thomas put it within everyone's reach and almost overnight gave Great Britain the habit.

tomer, bore the label, "Coming from Lipton's." Soon nearly everyone was going to Lipton's. Within a decade he had more than 20 shops.

Flamboyant in his advertising, Lipton remained ascetic in his social life and working habits. He continued to live with his parents until they died. He did not smoke or drink ("Corkscrews have sunk more people than cork jackets have ever saved," he liked to say).

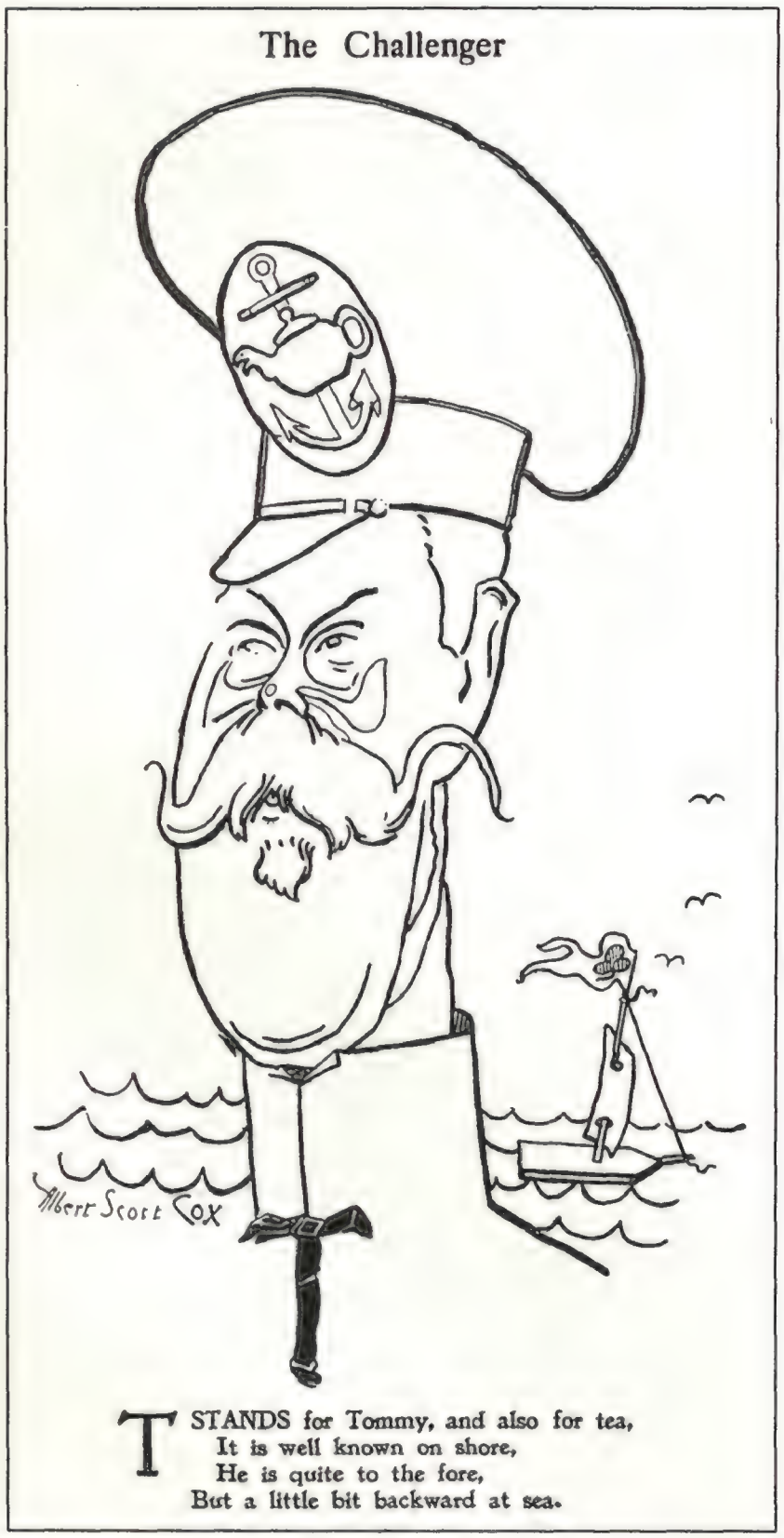
He announced in 1890, a few months after his father's death, that he was at last taking a vacation, a trip to Australia. His business associates knew better, and one of them was not surprised to be sent on ahead to Ceylon. When Lipton's ship put into Ceylon for refueling, the agent was ready for him. Yes, as the Glasgow grocer had suspected, Ceylon's tea estates were for sale at distress prices. Ceylon was in the grip of a depression, caused by a coffee blight but pervasive enough to affect the tea plantation owners as well. Lipton left the ship and went into the mountain country, buying plantations everywhere. He had brought $300,000 with him for the purpose; so willing were the owners to sell that he spent only half of it.

He returned home to plaster every available billboard with "Lipton's Tea" advertisements and to hire men to dress as Sinhalese and parade the streets. And, as he had with much of the produce in his shops, he offered his tea at bargain prices. Within a few years England, where tea had been popular only with the rich, became a nation of tea drinkers, and Lipton's business was too big for Glasgow. In 1894 he moved to London.

The millionaire grocer had become a multimillionaire tea merchant. And now he indulged himself. In the village of Southgate, outside London, he bought a 700-year-old estate called Osidge Park—and chuckled to himself when it shortly became known as "Sausage Park." The mansion included an orangerie and an orchid house, a paneled billiard room, innumerable chambers and countless chimneys. He filled it with wild animal skins and mounted heads. His servants included a turbaned Sinhalese who greeted guests.

Among his new acquaintances was Sir George Faudel Phillips, Lord Mayor of London, with whom Lipton ingratiated himself by donating the tea and sugar for a project to feed the city's many poor. Lipton was quite aware that the project had been launched with a

Mr. Whipple, author of the forthcoming book, Racing Yachts, *writes extensively on maritime events and plies Long Island Sound in his little day sailer.*


The Challenger
Albert Scott Cox
T STANDS for Tommy, and also for tea,
It is well known on shore,
He is quite to the fore,
But a little bit backward at sea.

fund proposed by HRH the Princess Alexandra, Princess of Wales, and soon made a point of asking the Lord Mayor how the fund was holding up. It was, Sir George replied, doing badly. The Lord Mayor did not have to tell Lipton how embarrassing it would be to Princess Alexandra if the project failed. Lipton promptly wrote a check for the equivalent of $125,000.

Generosity—and calculation. Lipton at first requested that his donation be anonymous. But everyone, including the royal family, tried to guess at the identity of the check writer. With Lipton's tacit assent, he was revealed. He immediately won the undying gratitude of Princess Alexandra—and her husband.

The Prince of Wales invited Lipton into his inner circle and took an immediate liking to him. The Irish emigrants' son fitted into the prince's world partly because of the latter's enjoyment of anyone who was good company. And Lipton had metamorphosed from the drudge who slept under his counter into a party-loving raconteur and consummate showman. Not only was he pleased personally, but also he was not unaware of the publicity value to Lipton's Tea when he sailed in the royal yacht across the Solent to the Isle of Wight to kneel before Queen Victoria in Osborne House and be dubbed Sir Thomas.

A favorite princely pastime was yachting, and it took less than a hint from the Prince of Wales for Lipton shortly to purchase a yacht. (Besides, he always thought he looked more attractive with a suntan.) He named her *Erin,* and she became the floating stage for many a gala party graced by the prince's presence. But *Erin* was a steam yacht. The Prince of Wales liked racing in sailing yachts. And with his instinct for the grand gesture, Sir Thomas decided not only to commission the finest racing yacht in England but also to make a challenge for the America's Cup.

Lipton was well aware of the prince's displeasure with the Anglo-American bitterness over Lord Dunraven's dispute with the New York Yacht Club. How better to reverse this unpleasant international situation than by making his own challenge? The question of *winning* the Cup was immaterial. A great tea market beckoned across the Atlantic.

His royal friend responded to Lipton's gesture by proposing him for membership in the august Royal Yacht Squadron at Cowes. It was a mistake. The members' assessment of the prince's flamboyant friend was summed up by one of them, Wilhelm II, the German Kaiser and the prince's nephew. When asked while strolling the Squadron lawn if he had seen his uncle,

American caricature indicates esteem and affection he stirred over here. Actually, he hated to lose.

the Kaiser replied: "They tell me he has gone boating with his grocer."

The prince, quietly informed by the Squadron's membership committee that even he could not make that bastion of snobbery accept Lipton, just as quietly withdrew Lipton's name, thus avoiding the greater embarrassment of having a royal nominee blackballed. As for Lipton, he was, or pretended to be, merely amused. He was already a member of the Royal Ulster Yacht Club in Belfast. And so in the summer of 1898, he made his first challenge for the Cup.

The famous yacht designer William Fife jr. had been instructed that money was to be no object, and in *Shamrock I* (p. 46) Fife produced a racer whose appearance at first worried the New York defenders. As it turned out, their *Columbia* won all three races. But if *Shamrock I* was a failure in 1899, Sir Thomas was a rousing success. His steam yacht *Erin* became a floating hospitality house. The press was treated lavishly, and responded with rapturous description of *Erin*'s luxurious appointments, from her music room complete with singing canaries and a harp to her many cabins outfitted with Sèvres vases and china statuary.

Sir Tea loses—with no complaints

What most endeared Sir Thomas to Americans, however, was his sportsmanship. Spectator fleets got in the way of *Shamrock I*. Designer Will Fife, who had been expected to add his invaluable advice in the afterguard, was taken sick and could not race. The winds were unexpectedly light. But Lipton complained about nothing, and hastened to say, "I am not discouraged." He promised to come right back again.

He wasted no time in commissioning *Shamrock II*, which earned him even more publicity in a dramatic incident before she departed for the States. It was scarcely the sort of thing Lipton would have thought of, but he could not have planned it better if he had. During a trial run, *Shamrock II*'s mast broke in two, sending a shower of shrouds onto the deck, narrowly missing a guest observer: his old friend the Prince of Wales, now King Edward VII. Repaired and crossing the Atlantic, *Shamrock II* lost all three races in 1901, but much more closely than Lipton's first challenger had. To the delight of even more Americans, Sir Thomas announced: "The shamrock has three leaves! Next time, for sure."

Two years later, as soon as permitted by the rules, here he was again with *Shamrock III*. His reception was tumultuous, and he made the most of it. Asked to judge a beauty contest, he judiciously studied the young ladies of two New York chorus lines and declared: "Solomon himself might well hesitate at such a responsibility." He dined with President Theodore Roosevelt. A Broadway musical comedy featured one "Sir Thomas Ceylon Teaton." The only rude reception, as usual, was that accorded *Shamrock III* by the Cup defender, a revolutionary new racing machine named *Reliance*, which led at every turn of the match.

The irony was that by now Sir Thomas was beginning to resent losing. He had invested millions in three challengers, all out of his own pocket, to compete against yachts financed by syndicates of wealthy Americans. "No man was more confident of winning anything than I was when I came over," he said. "What can I do? I have tried my best."

Lipton might never take the helm of a Cup challenger, but he now knew enough about the America's Cup competition to conclude that the rules were still unfair. The most convincing illustration had been this third match, in which a boat sturdy enough to cross the ocean had had to compete against a swift, fragile racing machine. Sir Thomas returned to London and wrote to the New York Yacht Club that he would challenge for the fourth time only when the rules were made fairer to the challenger.

The transatlantic discussion took ten years. Lipton, meanwhile, had other matters to attend to. His tea company had become a public corporation. His royal patron, Edward VII, had died and was succeeded by his son George V, who was uninterested in his father's social life-style. Lipton revisited his plantations in Ceylon. On one trip his steamer went aground temporarily and the captain ordered some of the cargo to be jettisoned. While other passengers panicked, Lipton spent the time stenciling "DRINK LIPTON'S TEA" on every bale that would float.

A bit part in a Mack Sennett movie

He returned to the States, where his company was now flourishing. Welcomed and reinvigorated, he traveled to the West Coast, where one of his admirers, Mack Sennett, persuaded him to take a bit part in a Hollywood movie. His American visits again stirred the old urge to "lift the mug."

Finally, in 1913, the Cup defenders in New York agreed to a complicated solution which, in effect, provided for more closely matched racing yachts. Lipton promptly ordered *Shamrock IV* and forwarded his fourth challenge. She was on her way across under tow by *Erin* when World War I broke out.

Erin and *Shamrock IV* ducked into Bermuda to escape being torpedoed by German submarines. Then they sneaked across to the U.S. coast and up to Brooklyn, where *Shamrock* was tied up for the duration. *Erin* steamed back to England and was pressed into service, first as a hospital ship and then as a patrol vessel in the Mediterranean, where she was sunk.

Sir Thomas talks to some of the crew of the American defender *Resolute* that beat *Shamrock IV* in 1920.

Tootling a sax, Lipton joins some U.S. Navy bandsmen celebrating the new Jazz Age in early Twenties style.

Not until 1920 had Britons and Americans recovered sufficiently from the war for *Shamrock IV* to make her bid. Again Lipton was the cynosure of New York, sitting in his basket chair aboard his new steam yacht *Victoria,* his yachting cap perched at an angle, his white flannels flapping in the breeze, his polka-dot bow tie and little goatee bobbing as he entertained.

For the first time in his 21-year series of challenges, his *Shamrock* won the first two races. Surrounded by reporters, virtually all of whom were hoping that he would finally win, Sir Thomas posed for the cameramen "lifting the mug," a pitcher full of tea. He ordered a special case to pack the Cup in when he took it home. Then defender *Resolute,* with Boston's wily Charles Francis Adams, America's first amateur Cup match helmsman, at her wheel, came storming back to win the next two races. All New York poured down to the waterfront for the deciding race (p. 38).

Lipton was exhilarated and confident at last. The wind was blowing a near-gale, 30 knots out of the southwest. *Shamrock IV* was a big bruiser of a boat—the press called her "The Great Green Frog"—and she was manned by a crew of hardy Essex fishermen who had brought her across the Atlantic. The yachts were at the starting line and champagne toasts were already being shouted across *Victoria's* deck when the flag rose above the committee boat: the letter "H," indicating "Race Postponed."

Foiled by heavy weather

For the first time since anyone could remember, Sir Thomas registered outrage. He knew that for a race to be postponed, both captains had to assent. He called for his launch and went bouncing out to board *Shamrock IV*. Her skipper, William P. Burton, had a reasonable excuse. *Shamrock IV* had been pounding hard in the heavy seas and taking water aboard.

Lipton disconsolately returned to his steam yacht. He was heard to grumble, "*Shamrock* had much worse weather than this coming over." Then he tried to resume his jovial hospitality; after all, she could still win. But he seemed to sense what would happen next, and it did. Forty-eight hours later, in light winds, Charles Francis Adams steered *Resolute* to win three in a row and save the Cup.

The result of his wanting to win, of his disappointment, was that Sir Thomas Lipton became even more of an American folk hero. One fan proposed that "Sir Tea" be appointed British ambassador to the United States. Returning home, Lipton found Londoners nearly as adulatory. He rejoined the city's social life, now gradually recovering its gaiety after the war.

Though Lipton's British company was sold, the American branch was paying off, helped not a little by

Prohibition. Sir Thomas bought a huge office building-warehouse in Hoboken, New Jersey, and covered its side with a "LIPTON'S TEA" sign that could be seen all across the harbor. He boasted that he was the only businessman in New York who could drive straight to his office door; the elevator in his building was large enough to accommodate his limousine, which deposited him on the 12th floor. Once again, his American visits stirred the old racing fever.

A yachting cap kept under the seat

Shamrock V was brought to the United States in the summer of 1930. To his millions of fans Sir Thomas seemed the same old happy challenger. Reminding some newspaper reporters of his affection for Americans, he admitted nevertheless that "my only blood relatives are some New Jersey mosquitoes" who had welcomed him as a boy years before. Driving through New York, he was recognized by people who waved and cheered. He told his chauffeur to slow down, and changed his hat for the yachting cap he kept under the seat. But those at closer range could detect a difference. He was 80 years old and showing it. One old friend realized after a few puzzling minutes that Sir Thomas did not know who he was. Lipton betrayed moments of irascibility, was fussy about his food and insisted on carrying his own bottled drinking water.

He seemed as determined as ever, promising, "I mean to do it." But he had the misfortune to challenge the brilliant, analytical Harold S. Vanderbilt in the superbly designed *Enterprise.*

The race site in 1930 was moved to Newport for the waters off Sandy Hook, New Jersey, had become too crowded and dangerously encumbered with floating debris. Special trains brought spectators from as far away as Chicago, most of them cheering for "Sir Tea." Yachts crammed Newport harbor. When *Shamrock V* arrived, under tow by Sir Thomas' yacht, U.S. Navy destroyers provided an escort, and the challenger was greeted in the harbor with dressed ships, cannon salutes and cheering crowds on the shore. Hundreds of vessels rolled out to Brenton Reef to watch the races; the match became known as "the rum-runners' paradise" because so many Coast Guard patrol boats had to be diverted to control the spectator fleet. But Lipton and his supporters were disappointed again. *Enterprise* won all four races easily, in a victory which Vanderbilt himself admitted was "so tempered with sadness that it was almost hollow."

For Americans who had momentarily forgotten the growing Depression, the letdown became nearly a national trauma. Will Rogers came to the rescue. Perhaps prompted by Lipton's press agent, Rogers wrote a letter to the *New York Times* proposing a national

Off for his last attempt to "lift the Cup," Lipton bids an admirer farewell at Waterloo Station.

Thick Scottish accents vied when New York shipboard photographers posed Lipton and Sir Harry Lauder.

subscription: "Let everyone send a dollar apiece for a fund to buy a loving cup for Sir Thomas Lipton bigger than the one he would have got if he had won."

Within ten days, $16,000 poured in, and Tiffany & Co. went to work designing the cup. It took two months to make; it was 18 inches high, of 18-carat gold, with a sterling silver base sent in by some miners in Utah. Its ornate surface included a representation of the America's Cup in relief, the seal of the United States, the Royal Ulster Yacht Club insignia and Lipton's private flag. The cover bore a design of shamrock leaves. The inscription: "In the name of hundreds and thousands of Americans and well-wishers of Sir Thomas Johnstone Lipton, Bart., K.C.V.O." At the presentation dinner, Sir Thomas was so affected that, probably for the first time, he was speechless. All he could mutter was: "Although I have lost, you make me feel that I have won. But I will try again. Yes, I will try again."

Doggedly he started another correspondence about a sixth challenge. But evidently he knew that he could not try again. Promising to return next summer, he sailed on the *Leviathan,* the onetime steerage passenger now in the best suite of the finest ocean liner. He returned to the echoing halls of Osidge, empty except for its softly padding Sinhalese servants. He spent his solitary evenings rereading his books of press clippings; they filled 84 volumes. The jovial friend of royalty and hero of millions was a lonely old bachelor.

Most of his old friends were dead now. He invited new ones to fill the silent rooms of Osidge Park. They did not see a great deal of him. He would preside over a festive dinner: every lady found a corsage at her plate; the food and wine were excellent (the host drank

Sir Tea's first challenge, in 1899, pitted his green *Shamrock I* against victorious *Columbia.* The giant

from a napkin-wrapped bottle that contained ginger ale). He would play a game of billiards with the men after the port and the cigars (sometimes betraying the fact that he hated losing), then retire.

On May 10, 1931, he quietly celebrated his 81st birthday, and three days later received an unexpected birthday present: a letter from the Royal Yacht Squadron announcing that he had at last been elected, and unanimously, to its sacred membership—"In recognition of his great services to yacht racing." Lipton's private reaction was a wry joke. "Tell me," he asked a yachting crony who was a Squadron member, "where are the offices of yon club that I've joined?" That summer he went down to Cowes to watch *Shamrock V* win the Squadron's main event, the King's Cup. He flew the Squadron's white ensign, but he did not enter the hallowed clubhouse, even for the dinner celebrating *Shamrock*'s victory. He claimed to have broken a "wee" bone in his foot, but his close friends concluded that he did not want to embarrass any of the members who had threatened to blackball him.

He continued to talk about a *Shamrock VI*; but that August he wrote the New York Yacht Club that he would have to postpone his challenge. On September 29, he returned from a ride in his car, complaining of a chill. Next day his doctor kept him indoors. He had more guests for dinner that night, and played a game of billiards. After going to bed, he lost consciousness. He died two days later.

Shamrock V was quickly purchased from his estate to serve as a trial horse for the next challenge, by T. O. M. Sopwith—almost as if to prove that while Sir Thomas was dead, the America's Cup competition, largely because of him, might well live on forever.

vessels were best suited only to put on a spectacle as they raced—here in waters off Sandy Hook.

Courtesy of the New York Yacht Club

By Gina Kolata

Texas counselors use psychology in cancer therapy

The Simontons' method offers patients hope of participating in their own treatment but the medical community is skeptical

Carl and Stephanie Simonton, at their Texas retreat, are training a cadre of psychological cancer counselors.

It is about an hour's drive from the bright, modern offices of the Cancer Counseling and Research Center in Fort Worth to Briarwood, a rustic retreat in the flat, wooded Texas countryside. There, on a sunny April day, I found 20 counselors gathered for an intensive course sponsored by the center. They were examining their own psyches and studying videotapes of counseling sessions with five cancer patients, four of whom, the counselors were told, have since died.

The sessions at Briarwood are intensely emotional. The counselors include doctors, psychologists, priests and nuns, social workers and other therapists (a number of whom are themselves cancer patients) who have come here to learn to confront their own problems in the process of learning to help others. There is much hugging and laughing and crying in the seven and a half hours a day they meet together. The rest of the day is left free for meditation and exercise.

At the end of the five-day training period at Briarwood, a few of these counselors will decide that they cannot cope with the death and the dying and the emotional toll of caring for terminally ill cancer patients. But most will return to their communities and spread the word that they have been trained under the auspices of the Cancer Counseling and Research Center's directors, O. Carl Simonton and Stephanie Matthews-Simonton.

The Simontons are a team that is building an international following for a controversial method of treating cancer patients. The course taught at Briarwood is just one of their operations. They also travel throughout the country conducting an introductory course in cancer counseling for groups consisting of about 100 people. And they have a more advanced course featuring individual supervision of counselors as they treat patients. In addition, the Simontons counsel about 40 cancer patients a year and have written a popular book, *Getting Well Again.*

Stephanie Simonton, looking tan and healthy with her long, wavy hair pulled back from her face, invited me to join her at the side of a small swimming pool. Speaking rapidly, she told me that she and Carl together have taught as many as 4,000 counselors in their introductory course, 250 in the intermediate course begun two years ago, and about 40 in the most advanced course, which they have just begun. They also have counseled about 250 patients in the past six years.

I realized just how far-reaching the effect of the Simontons' method was when I asked Wendy Schain, who counsels breast cancer patients at the National Cancer Institute, how many of her patients know of the Simontons or their followers. She said that about two out of five patients at least mention the Simontons' theories and that one out of five thinks that the Simontons' techniques may help her. She suspects,

Cancer patient reclines and flies kite in counseling session with Simontons, who are exploring "play therapy."

Photographs by Gordon Trice

In training session at Briarwood, two counselors play roles of therapist and patient, bringing out their own emotions. Here, participants explore feelings and probe repressed anger; both have experienced cancer.

however, that those who really want Simonton-type counseling would not come to her, since she does not offer it.

The Simontons' method is just one of a number of nonconventional therapies including laetrile, vitamins, nutritional therapies and religion. Marc Lippman, head of the breast cancer section of the National Cancer Institute, says all of his patients employ some such therapies besides the treatment he provides.

The Simontons believe that psychological factors influence not only who will get cancer but who will recover from it. Getting cancer, they believe, is just one way certain people respond to stress. By learning to understand themselves and their responses to stress, cancer patients can live longer, have fewer side effects from their treatments, and die more peacefully than if they just passively resign themselves to treatment by the medical establishment, the Simontons assert. And if people could learn from childhood how to cope with psychological stress, the incidence of cancer could dramatically decline, they believe. I asked Carl Simonton how he regarded other possible causes of cancer, such as chemicals in the food and air, compared with stress. "I'm reluctant to say it *all* is emotional," he replied, but he does place his primary emphasis on emotional factors.

The Simontons' beliefs are not accepted by most of the medical community, but their acceptance by so many patients and counselors indicates that the Simontons, in their groping for a way to help cancer patients, may have hit a raw nerve.

For many people, the diagnosis of cancer is like a death knell. There are medical treatments for most cancers, but the treatments can seem at least as bad as the disease and the survival data all too often are grim. Patients come to feel that they have no control over what may be the final stage of their lives, that the only thing they can do is passively surrender themselves to the medical profession. So when the Simontons tell patients that they can learn actively to participate in their treatment, and that if they do participate they will live longer and will die with dignity, it is no wonder that patients respond enthusiastically.

Carl Simonton, of medium height with wire-rimmed glasses and curly, light-brown hair, spoke to me almost evangelically in his white and tan office, artfully decorated with potted plants. He explained that it was the lack of hope among cancer patients that stimulated him to think of some psychological methods of helping them. He is a physician, a specialist in the radiation treatment of cancer, and about ten years ago he tried

Gina Kolata is a staff writer for Science *magazine. She wrote on mathematics in October 1979* SMITHSONIAN.

Counselors embrace as anger gives way to relief. Such role playing prepares counselors to cope with real patients later on, and reflects Simontons' belief that emotions strongly influence recovery from cancer.

to enroll patients at the University of Oregon in an experimental program that would entail two radiation treatments each day rather than one. But the patients were unenthusiastic, much to Simonton's surprise. "I decided the problem was motivation—the patients didn't really think they could get well," he says.

Together with Stephanie, who is a counselor, Carl Simonton decided to try something new. Stephanie had been working as a consultant to business, looking at ways to teach people to reach their goals. She came across the use of relaxation and imagery as motivational tools. She and Carl decided to extend these tools to the treatment of cancer patients. They would teach patients standard relaxation techniques and ask them to picture the radiation destroying their cancer cells and their immune system mopping up the debris.

In April 1971, Simonton tried this approach with a 61-year-old man with advanced throat cancer. "He did extremely well," Simonton recalls, "better than I had ever seen a patient with his disease do."

Encouraged by this initial success, the Simontons combed the scientific literature for evidence that stress and certain personalities are related to cancer. Their impressions seemed to be supported by a number of studies suggesting, for example, that people prone to depression and denial may also be likely to get cancer. These studies, however, so far lack the scientific rigor that would make them convincing to most medical scientists. The Simontons devised their own theories and method of treatment, to be employed along with traditional medical treatments, that they firmly believe are useful, although Carl Simonton admits, "It's sketchy. It's not solid by any stretch of the imagination." But, Simonton says, he doesn't want to wait for an official seal of approval before using his method. "I'm young and impatient," he explains.

After lunch at Briarwood, Stephanie Simonton sat with me in the rustic dining hall. On each table was a pitcher of honey, a box of raisins and a jar of peanut butter, in keeping with the Simontons' ideas of a healthy diet. Stephanie Simonton told me that cancer patients who quickly succumb to the disease tend to have a particular set of emotional responses, including repression, denial and depression. They often have been unable to cope with the loss of a loved one. Those who do well are emotionally resilient, physically active, are flexible in their beliefs, have a strong self-concept and are socially autonomous.

When they treat cancer patients, the Simontons and their followers employ psychological counseling to help the patients deal with their problems so that death from cancer is not the only way out, and so that they can learn how to obtain the psychic benefits they derive from illness without being ill. "Disease," says

Two counselors at training session relax in rustic setting; Simontons believe relaxation is key to health.

Stephanie Simonton, "is frequently the only opportunity people have to ask for their needs to be met, to be angry, to be selfish, to say no."

A counseling session with the Simontons is different from the conventional idea of sitting down with a therapist. The sessions are emotional. "There is a lot of hugging and closeness and a lot of love," Carl Simonton explains. He and Stephanie are exploring such things as the concept of happiness. "One way to look at happiness is with play therapy. To me, one of the most enjoyable forms of play is kite flying," he told me. So the Simontons and their patients may spend part of a therapy session flying kites. The Simontons also firmly believe that exercise is crucial to physical and emotional well-being and helps relieve stress. They often invite their patients to jog or swim with them. And, along with helping their patients to enjoy life, the Simontons help them to confront the idea of their own deaths. Not surprisingly, Carl Simonton says, many patients had refused to think of death. But after all, he remarks, in our society "the only word we have for participation in one's own death is suicide."

Concurrent with the psychological counseling, patients are taught to relax, to visualize their cancer cells, and then to visualize their chemotherapy or radiation treatments as destroying these cells. Next, they are to visualize a vast army of "very smart" white blood cells coming in and cleaning up the area. They are to do these visualization exercises three times a day and are to draw pictures of what they see.

As a result of this sort of counseling, the Simontons claim impressive results. In their pilot study of 225 patients with advanced malignancies, they report that their patients lived twice as long as expected. These data and the theory that the Simontons expound are contested in the medical community. One critic, Bernard Fox, a National Cancer Institute social scientist who is recognized as an expert on personality and cancer, points out that the Simontons attract only patients who are well enough and can afford to travel to Texas, yet they compared survival times of these "screened" patients with survival times of all cancer patients, including many who are bedridden in hospitals. Carl Simonton agrees that "the screening factor puts a question mark over our results," but believes that the effect they see is real.

Most critics, however, are careful to point out that they do not think it is inconceivable that personalities and stress could be related to cancer. After all, medical scientists believe that emotions can affect the body's hormones which, in turn, could affect cancer susceptibility. Emotions could also affect the course of the disease. "Personality and cancer is not a bizarre thing to study," says Vincent DeVita, acting director of the National Cancer Institute. Although it is not a high priority item, the institute has supported research on psychological factors and cancer.

What the critics doubt is the evidence that people can bring cancer on themselves by their behavior and that, by changing their behavior, they can make their cancer go away. These critics say they would welcome some credible evidence that specific psychological factors are related to cancer. But they recall how often in the past medical scientists have been burned by accepting exaggerated claims for treatments that turned out to be useless or even harmful.

Some of the most outspoken critics of the Simontons' method include physicians who are deeply troubled by what they see in their own practices with cancer patients. Jimmie Holland, for example, is chief of the psychiatric service at Memorial Sloan-Kettering Can-

cer Center in New York, and has devoted her career to treating the psychological problems of patients and their families and to teaching the hospital staff how to deal with cancer patients. She told me she sees many cancer patients who are convinced they caused their cancer by their past behavior. They are sure that if only they were really strong, they could make their cancer go away. Many of these patients then are racked with guilt over what they have done to themselves and are deeply depressed when they cannot make their disease go into remission. "I think that's a terrible thing to lay on people," Dr. Holland says.

No reason to feel guilty

Howard M. Spiro, a professor of medicine at Yale University, wrote an article for *Medical World News* after a friend of his sought out the Simontons in desperation. In his article, he argued that there is no reason for patients to feel guilty about causing their own disease. He told me he has since received quite a number of letters from patients thanking him for his article. Spiro says he is in favor of patient participation in therapies, but not to the extent that the patients feel personally responsible if therapies fail.

Concerned by what they see as the needless guilt and sometimes false hopes instilled in cancer patients who believe in the Simontons and their followers, the critics see no convincing evidence that psychological factors help cause cancer, and that patients, by modifying their behavior, can prolong their lives.

To the Simontons, their own case histories constitute strong evidence. Rarely, says Stephanie Simonton, has she seen a cancer patient whose life does not fit the typical personality pattern associated with the disease. The Simontons readily admit, however, that case histories alone do not prove that psychological factors are associated with cancer.

The critics believe the Simontons' reliance on case histories can be misleading. Holland, for example, says, "When you get cancer, you try to look back and find an explanation." But the fact that cancer patients had unsatisfying lives and were under some stress does not necessarily mean that psychological factors caused their cancer.

The second claim of the Simontons and their followers, that psychological factors play a key role in who will recover from cancer, is similarly questioned by the medical community. Again, the Simontons and their supporters cite examples of their own patients.

The Simontons tell of Bob, who was told his chances of a cure were less than one percent. After having had surgery and chemotherapy, he came to the Simontons and began practicing their techniques. Two months later, he had no sign of cancer. He told the Simontons, "I've learned a lot about my responsibility for my disease, my responsibility for healing, and about the techniques for unlocking the powers that can be found in all of us."

New York psychologist Lawrence LeShan, who popularized a controversial theory of cancer personalities, says that many of his patients who died consciously or unconsciously chose to do so. He tells of one woman who, after several sessions of psychotherapy with him, said, "If I go on with this, I'll have to look at my marriage and if I look at it, I'll have to break it up. If it's a choice between my life and my marriage, I'd rather lose my life."

Holland at Sloan-Kettering points out that case histories like these really do not prove anything. It may even be that those who give up die sooner of cancer. But even this hypothesis does not necessarily mean that these people die *because* they give up—nor does it follow that if people are counseled with the aim of instilling in them a strong will to live that they will then live longer.

While most of the critics focus on the Simontons' method as they practice it themselves, another potential problem may be in how their training is interpreted by the thousands of counselors who have attended their courses and use the Simonton approach. Because the Simontons have trained so many people, I wondered what sort of help a patient might find by consulting one of them.

I called a therapist at a leading local hospital and asked her advice. If I were a cancer patient looking for Simonton-type therapy, where could I go? She recom-

Briarwood sessions are intensely emotional experience; here two counselors hug, but tears are often shed too.

mended a counselor who had been trained by the Simontons, was licensed by local authorities and whose work was covered by health insurance.

I called the counselor and asked permission to sit in on a session as a reporter. After she had obtained the consent of her patients, she agreed to let me observe a counseling session.

So, on a hot, muggy summer day, I drove up to the counselor's tiny white house on a quiet block, set in a neighborhood of large, elaborate homes. What I was about to observe would surprise and trouble me.

The counselor led me down a narrow stairway to a small paneled room. A woman patient had already arrived and a second would come later.

The counselor is a soft-looking middle-aged woman with an effusive manner. Her most striking physical feature is an obvious swelling which, she says, is a residual effect of her cancer. The patient waiting for the counselor is a neat, trim, gray-haired woman. She and the counselor take off their shoes, recline in their chairs, and share a footstool to prop up their feet.

The patient told me that she had had a mastectomy 15 months ago but had refused conventional medical treatment for her disseminated cancer. She went to an "iridologist" who, she explained, is a person who takes photographs of people's eyes and looks for signs of disease. This individual referred her to the counselor. The counselor sees a physician who she feels has restored her health, and she has introduced many of her patients, including the two I met, to him.

Today, the patient has good news. She has just seen the doctor and he told her that there is no more cancer in her body, that her tumors are no longer filled with cancer cells but with fluid. The patient asked her doctor about her chronic fatigue and the lumps on her neck, and was told that the fatigue would end in a couple of months and that the lumps would gradually go away. The patient says she was so happy to hear that she is cured that she broke into tears of joy at the doctor's office. She begins to cry again as she recalls the occasion.

"How did your husband take the good news?" asks the counselor.

"His behavior at first was so hostile, I couldn't quite figure it out," the patient replies. The patient goes on to say that her husband has had a hard time accepting her doctor, a reaction that the counselor attributes to a denial of his wife's illness.

Changing the subject, the counselor asks, "How's your imagery?" The patient remarks that she doesn't do it as much as she used to. "Why not?" asks the counselor. "That's Russian roulette, you know. You need to check out your priorities." It strikes me that the counselor seems to be taking the curative properties of the imagery far more literally than I had thought the Simontons did.

The counselor and patient then discuss the patient's problem with her husband. The patient later tells me that her entire life has been a search for love and attention. As a child, she was ignored by her parents. And cancer, for her, was a way to get love and attention, she believes. She is seeing the counselor to work on these emotional needs and to try to learn to satisfy them without cancer.

"The trick is to meet your needs"

After the first patient has spent an hour with the counselor, the second patient arrives. She is a vivacious woman with a quick tongue and a ready laugh. She tells me that about one year ago she was diagnosed as having ovarian cancer and was informed that she had a 20 percent chance of living two years if she had chemotherapy and radiation treatments. She refused conventional medical therapy and went to the Caribbean for laetrile, then to Mexico for nutritional therapy, and finally came to the counselor who introduced her to her current doctor. She, too, says she is now cancer-free. She has had diarrhea and cramps every day for years, she remarks, and she says she knows intestinal upsets can be a sign of ovarian cancer. But the doctor she now sees has said that the upsets are a side effect of the medication he gives her and that they will go away. The counselor, on the other hand, tells the woman that her intestinal problems are "a psychosomatic symptom if I ever saw one."

The second woman's emotional problems also center on her relationship with her husband, she believes. She is being counseled to help her satisfy her conflicting needs for independence and dependency. "The trick is, how you can get your needs met without getting sick," the counselor tells her.

THE TASTE BEYOND 12-YEAR-OLD SCOTCH

Discover more.

Let your mature taste lead you from the finest premium Scotch on up to the most expensive 12-year-old Scotch in the world. The Glenlivet. The ultimate in Scotch.

Most premium Scotch is blended and depends on several whiskies for taste and smoothness.

Yet the unblended character of The Glenlivet is noble enough to stand alone. In this distinctive Scotch whisky you'll experience an exceptional smoothness and full-bodied richness, unmatched in all other premium Scotch.

Try the taste beyond premium Scotch.

The Glenlivet
Unchanged since 1824.

Toward the middle of the second session, the patients and the counselor practice their imagery. The counselor plays a tape of a husky-voiced woman speaking slowly and telling them to relax each muscle of their bodies. Then they are told to visualize their medical treatment and their white blood cells destroying their cancer. The counselor lies on the floor to participate in this exercise and for a while all is quiet in the little room as they meditate.

After meditating, the patients and the counselor are to draw pictures of what they saw. The patients complain, however, that since they are cured of cancer they have a hard time drawing cancer cells.

By this time, I was becoming more and more concerned about what I was observing. Although the Simontons believe in traditional medicine with psychological supports, some of what I was hearing in this therapy session seemed the very antithesis of traditional medicine. After the session, I asked the women about the doctor they were seeing, and his treatment. I was told he has a method that promises a 100-percent cure rate for cancer, but it only works if the patients do not have traditional medical treatment.

Upon further questioning, I was told that the doctor's theory is that all diseases are caused by chemical imbalances. Selenium therapy, he apparently believes, is effective against cancer, although most medical researchers consider it highly questionable. I was baffled by what sorts of medications these women were actually taking. And I was suspicious that the first patient, with her chronic fatigue and lumps, and second patient, with her intestional upsets, and the counselor, with her swelling, might not really be free of cancer.

I left the session feeling shaken and sad. I knew that I could not generalize from my own experience to all cancer-counseling sessions, but my experience had raised a lot of questions in my mind. When you don't know whether a method works but must go on faith and impressions, who's to say which impressions are right or wrong and where are the limits?

I wondered whether it was significant that the women I saw that day also sought other nonconventional medical treatments. But then I began to think of these women's lives, particularly the woman who has had ovarian cancer. She seemed confident that she is well and would soon be getting on with her life. If she had had the chemotherapy and radiation that her doctors had recommended, would she be any better off? I came back to the feeling that there may be reasons for refusing therapy, but that the hopes inspired by the doctor these patients see are not, to my mind, among them.

I asked Stephanie Simonton whether she is concerned about therapists who use the Simonton name but not necessarily the method. "It's a problem, it's something we focus on. But there is almost no way of stopping it," she said. "When we were first getting started and were less established and less accepted, there were probably more people attracted to us who also sought out alternative medical therapies. Those who are coming to us now are more traditional." But she has no data on how many so-called Simonton therapists might also promote nontraditional medicine.

Still, no one I spoke to is claiming the Simontons are frauds. Like many doctors, Carl Simonton is deeply and emotionally committed to his patients. "I have been so devastated that I thought I would die when patients died. I have nearly destroyed myself because I was too invested in patient outcome," he recalls. But these very ties between the Simontons and their patients might lead the Simontons to see better results than actually occur, University of Houston social psychologist Richard I. Evans believes. Evans says anyone who becomes too personally involved in treatment techniques is apt to exaggerate success. "They may come to believe they are healers," he says, "so their data could be self-serving and they may find ways to rationalize failures."

Because the Simontons' techniques and results have been so widely publicized, many terminal cancer patients either attempt or consider attempting to cope with cancer using psychological techniques. These patients are often desperate, and the psychological techniques may offer support. "This is one aspect of the social psychology of hope and despair," Evans explains. "But if you're dealing with bogus hope, that's really sad."

After intense sessions, counselors stroll on wooded path. Later, they will spread the Simonton word.

The South Pacific. It's not just

Tahiti. Fiji. Rarotonga. Names out of a summer afternoon's dream. Places to explore. Once hard to find and hard to get to. Now Air New Zealand gets you there easily and affordably. And because we've been there before you, this kind of exploring is all easy street.

First stop, Tahiti.

We suggest you begin with this sprinkling of tiny gems properly known as the Society Islands. The language is French and, of course, English is spoken. The little stores are often run by Chinese. Someone who looks like the postman puts French bread in your mailbox. And bicycles are everywhere waiting for you to pick one up and find a beach that will make you feel like Robinson Crusoe.

Minutes after you arrive you'll want to have your face in a diving mask staring back at fish that seem to be made of neon.

The airport at Bora Bora sits on the water. The yellow cab is white and it's a boat. And you glide to your hotel through blue-green lagoons. It could be the most beautiful taxi ride in the world.

Now, what about the appetite you've just worked up? A *tamaara* will fix it. A Tahitian feast of pork, breadfruit and exotic local dishes cooked in an underground oven the natives call an *ahimaa.* Go native. Eat with your fingers. Tomorrow you can switch to the classic French cooking of Le Belvédère, high in the mountains overlooking the Papeete harbor.

After dinner, take a walk on the beach and watch a brilliant sunset melt slowly into the ocean. And don't worry about getting lost. You can always follow your footprints back.

Next, the Pacific's largest islands.

First, New Zealand. Wander about in the charm and sophistication of Auckland. And then wonder at the breathtaking picture book scenery of the countryside.

On to Australia. Lose yourself in the vastness of the outback. And return to civilization in its vibrant and exciting cities of Sydney and Melbourne.

The friendliest people that you'd ever want to meet live down under.

for travelers. It's for explorers.

In New Zealand, they'll take you on hikes, show off their sheep and drag you home for dinner. They'll tell you the story of the New Zealander who's supposed to have flown before the Wright Brothers. They'll even show you where to find souvenirs that haven't beat you home.

And along the way, you'll discover that you can't beat the New Zealand prices. The dollar goes a lot further here than you might expect.

You'll find lunch for two at a quaint tavern with European flavor is a New Zealand treat at $8. A mere $35 buys you a motel suite for four. There's no service charge or hotel tax. And instead of tipping, just smile and say "thank you."

And while you're dining out and poking around you can dream about what's coming.

Fiji and Rarotonga. The perfect ending.

Land in Fiji and follow in the footsteps of the British. They landed here over a hundred years ago. And the Fijians have blended their own natural innocence with the English tradition of making things right.

Stop in Nadi and shop in the South Pacific's great duty-free port. Visit the sugar capital of Lautoka and spend an afternoon in the bustling outdoor market.

On certain days you can hear the sound of drums in the distance. Follow it to a native dance. The dance floor is a bed of hot coals. No wonder the dancers move so well.

Fiji is surrounded by countless tiny islands. Now's your chance to spend an unforgettable day on one. You may decide to stay forever.

A real explorer wouldn't miss the next stop. Rarotonga in the Cook Islands.

You'll find the people are peaceful and friendly, and they consider you as special as the captain who first discovered their land.

A horse drawn buggy takes you high into the hills, through lush plantations. Pick your own orchids and oranges. And get acquainted with a myriad of new flowers and tropical plants.

Catch a fast sloop and sail along Muri Beach where the winds are brisk, the view serene. And the day, thrilling.

We're at home in the South Pacific.

We've been charting and flying the South Pacific for over 40 years. This is our home. And when you board one of our wide-bodied luxury jets in Los Angeles you've already landed in our world.

The food we serve during your flight and the cabin crew who attend to you have a tradition of quality that many consider to be the finest in the world.

A thousand years ago, the Maoris who crossed the Pacific to settle in New Zealand carried the symbol of the Koru on the tail of their huge canoes. We carry that symbol today.

We invite you to visit our home, New Zealand, and the rest of the South Pacific. This is no dream. It's real. And it's waiting for you to embrace.

How to get there.

Plan your exploration around our new low round-trip APEX fare, Los Angeles to Sydney.

Or choose from one of our exciting package tours. Ask your travel agent for more information, or write to Air New Zealand, P.O. Box 9000, Dept. SM1, Van Nuys, CA 91409.

HOW TO GET LOST & FOUND IN NEW ZEALAND
HOW TO GET LOST & FOUND IN FIJI
HOW TO GET LOST & FOUND IN TAHITI
HOW TO GET LOST & FOUND IN THE COOK ISLANDS

We'll send you our brochures and the free book of your choice from our "How to Get Lost and Found" series.* A collection of books that recount the true-life adventures of two Americans who fell in love with the South Pacific.

air new zealand
We fly the Pacific.

*Offer restricted to one book per individual request. Limited quantity available on a first-come first-serve basis.

Colored wet pulp has consistency of cottage cheese. It dries in concentric-circled aluminum mold.

Tullis, like a figure in a medieval print, perches well up on his 70,000-pound industrial

By Patricia Newman

New processes add tangible shape to venerable art form

In the experimental workshop of Garner Tullis, artists mold and sculpt and paint with paper, and give the traditional print a new dimension

"I want to make prints the way U. S. Steel would make prints—big and grand," says Garner Tullis, a California artist with boyhood memories of Pittsburgh and its steel mills. He hangs from a pipe to make an adjustment on the massive industrial press he bought last December (above).

In another life, the press was used to stamp out paneling for modular buildings. Now it exerts its awesome 1,000 tons of platen pressure on a sheet of handmade paper, for Tullis is currently engaged in making unusually large art prints, some measuring as much as 4 by 12 feet. At one time, before the monolith went into operation, he was concerned that the great force of the press would blow the paper apart. Fortunately, it hasn't happened—yet.

The press, a smelly, greasy hulk, cost a small fortune and plunged Tullis into debt. It is housed in a studio next to the Gonzalez Body Shop in Hayward, California, 35 miles from Tullis' printshop, which is situated on a San Francisco pier.

Tullis grins. He has worked at his printmaking ambitions for 20 years and, at last, has attained his creden-

press. He is adjusting pressure gauge that regulates hydraulic flow of fluid to cylinders.

A finished print by Kenneth Noland, *Pacific Coast Construction,* employs pulp and grid of Lucite.

tials. He is an associate professor of sculpture/printmaking for the University of California, Davis, and his company, Experimental Printmaking, has become the favored atelier of some of the world's finest artists.

The press is not used for all works, but only for those that require great pressure to create their impressions. Other pieces, which some critics claim are not prints at all, are modeled or molded. These are usually large and of handmade paper. While the material is basic to traditional printmaking and its manufacture is hardly new, the studio is well-known for turning the production of paper into an art form of its own.

The principal conventional processes of printmaking, all on a flat surface, are: lithography, in which the image is rendered on stone or metal; engraving, where lines are cut directly on a metal plate; etching, in which a design is scratched through a layer of wax onto a metal plate, which is then given an acid bath; and woodcut, where a design is cut on the block of wood. The design can then be transferred to paper and be reproduced a number of times.

Tullis uses a variety of methods different from any of these. Fibrous material—cotton rags and sometimes "recycled" paintings—first is ground into pulp. The pulp is mixed with water, then strained to create a malleable, cottage-cheeselike substance for casting on molds, hand shaping, flattening or embossing. When dry, the nubby sheet can be painted with ink, acrylic, oils, watercolor, or whatever the artist chooses. The artist may produce a one-of-a-kind work, a series of hand-finished variations of a basic print design, or even an "edition" of cast three-dimensional paper sculptures.

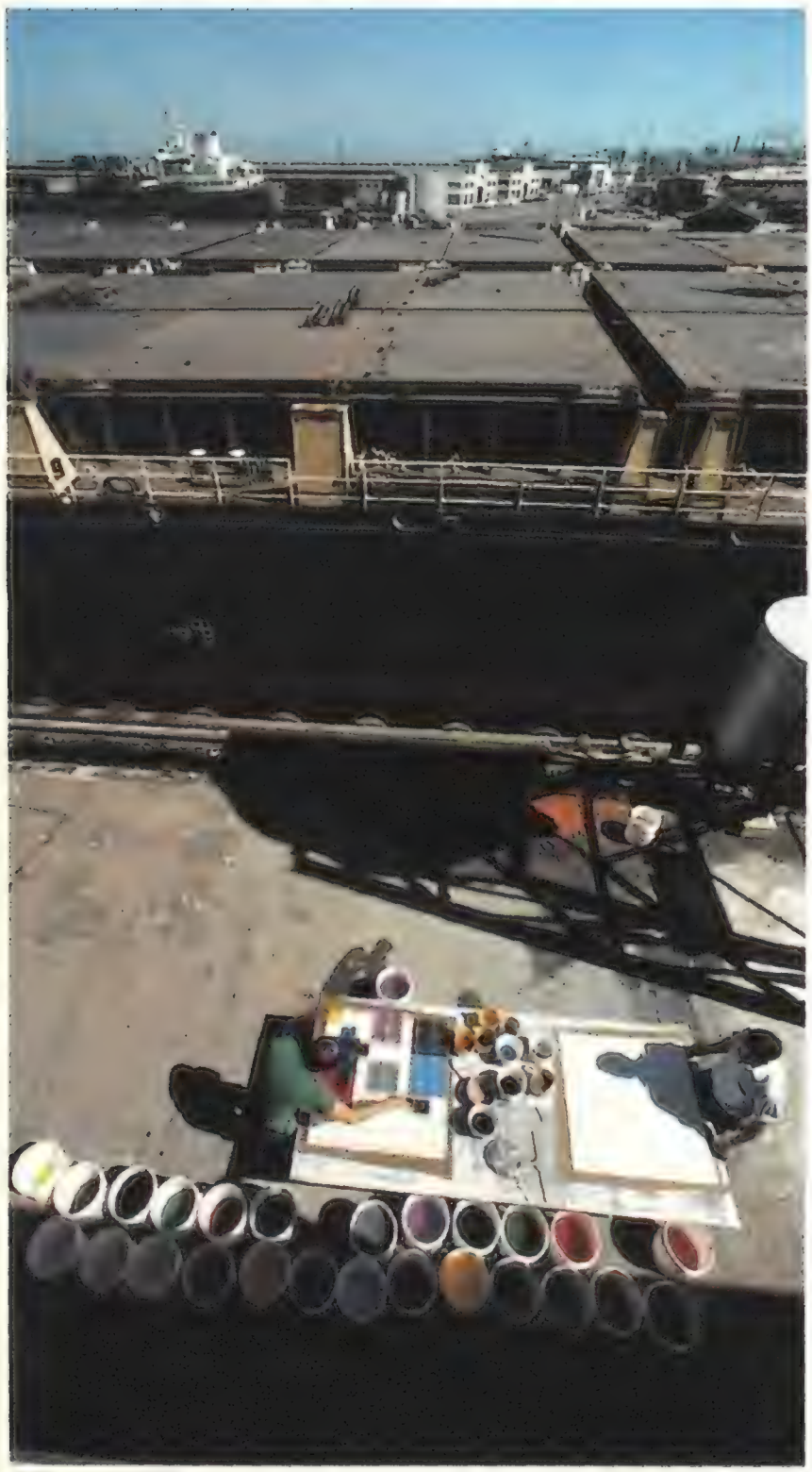
The resulting works are innovative in their blending of new techniques with the artist's own style. The possibility of working "in" instead of "on" paper, says Tullis, is a revelation to most artists as great as the discovery that the Earth is round and not flat.

Arnaldo Pomodoro, the internationally noted sculptor, flies to San Francisco from his home in Italy to learn from Tullis, his former student. Painters Sam Francis and Billy Al Bengston commute from Los An-

Patricia Newman is a San Francisco free-lance writer who frequently contributes to magazines.

Photographs by Christopher Springmann

With Tullis watching, Italian sculptor Arnaldo Pomodoro makes positive pattern for casting.



At pier studio on San Francisco Bay, a fine place to work on a sunny day, Noland ponders paperwork.

geles to work with Tullis. Louise Nevelson ships plywood maquettes of her famous sculptures across the country for Tullis to cast in paper or duplicate in plastic. Kenneth Noland drops in from New York to fashion new versions of his familiar targets and chevrons.

Internationally recognized artists are now producing high-priced prints at Tullis' shop, and dealers from New York are commissioning Tullis to publish editions of their artists' work. Yet there are none of the familiar trappings of success at Tullis' waterfront headquarters. A cavernous studio and gallery space covering 14,000 square feet with 12-foot ceilings houses a collection of presses: an 800-ton hydraulic embossing press, a Washington handpress circa 1900, a Hoe Electric Mat Roller for etchings and a Duffas lithography handpress. There are various macerators, rag shredders, deckles and molds for papermaking, miscellaneous pieces of furniture and hundreds of buckets.

Buckets are everywhere. There are 30 or 40 plastic buckets of paper pulp in every color imaginable; there are dozens of small cardboard buckets from Ace Hardware and Kentucky Fried Chicken. There is even a bucket marked "Nevelson White" catching water from the leaky roof.

Steel drums of liquid rubber, massive workbenches, power tools, air compressors, and remnants of unfinished lunches fill the adjoining workshop.

Some of the first cast-paper prints shown in New York in the early Seventies were produced by Tullis from Louise Nevelson maquettes. Tullis is currently producing a series of two-dimensional works by Tony Smith, and every piece of Joe Zucker's March show at the Pace Gallery in New York City was hand-wrought by the artist at Experimental Printmaking.

Artist Billy Al Bengston and Ann Tullis assemble paper collage. Ann Tullis is expert papermaker.

More important to Tullis than publishing contracts with galleries is his ability to offer individual artists a fully equipped workshop for exploring new expressions in paper.

The son of an executive in a high-technology printing equipment business who was recently honored as a graphic arts "Man-of-the-Year," Tullis grew up with a knowledge of printing techniques and was fascinated by what he calls the "limitless possibilities the industry had to offer." He traces his appreciation of fine art to trips he took with his mother to the Museum of Art of the Carnegie Institute while a boy in Pittsburgh, where the exhibits made a memorable impression on him.

From his student days at the Pennsylvania Academy of the Fine Arts in the early Sixties, until his founding of the graphics workshop in 1973 in Santa Cruz, California, Tullis bore what he describes as "the stigma of sculpture." He acknowledges that the time spent on a Fulbright grant in Italy, where he learned bronze casting, his work under Arnaldo Pomodoro at Stanford University, and his stint as foundry supervisor for Peter Voulkos at the University of California, Berkeley (SMITHSONIAN, March 1978), all provided him with a legacy for his future work in printmaking.

While teaching at the Cleveland Institute of Art, Tullis entered a printmaking competition with a cast work measuring 5 by 10 feet. The print, which many colleagues insisted on calling sculpture, brought him first prize and the opprobrium of one critic who said, "I defend his right to say what art is, but I do not believe this to be a print."

Paper is basic to the work of Experimental Printmaking, and Tullis' wife, Ann—with the help of one assistant—produces all of the paper used, one piece at a time. Single sheets of cotton linter are fed into a giant blending machine that pours out 250 gallons at a time of wet pulp ready for forming into sheets.

Ann Tullis spent four weeks preparing materials prior to Joe Zucker's visit in January. Zucker planned to make 25 different versions of a single image—a large multicolored toucan. He sent Tullis a line drawing of the bird and Ann silk-screened it onto the single sheets of handmade paper. She also prepared 50 buckets of wet pulp, each a different color. Zucker then placed the colors—small globs of dyed pulp mixed with glue—onto each print, one pinch at a time. Finished prints were placed under suspended window fans for complete drying.

The effort was a success and the finished prints were shipped off to New York. Earlier Zucker had attempted to contrive the texture by painting on cast paper, rather than applying the textured pulp to a smooth surface. "It didn't work out," he recalls. "It was like painting on egg cartons."

Failure and willingness to try again is basic to Tullis' philosophy. "That is the tradition of how ideas develop for artists." He says, "This is a research lab and a place for artists to play; Ernest Trova has been here twice and nothing developed. It doesn't always work."

Billy Al Bengston, a frequent visitor, echoes that opinion. "Much of the work I've done here hasn't really worked out, but it's been a springboard for my other work. The reason it works here is that there's no pressure to turn out a product for sale. There's an integrity in the atmosphere."

Artist Joe Zucker checks details of one of his 25 *Toucan* prints, all on same theme but each different.

Cooking with pulp for prints

The Tullises know the eccentricities of their artists and anticipate their moods. An elaborate stereo system plays jazz for Kenneth Noland while he squirts wet pulp from an ordinary kitchen bulb baster onto his paper "canvas," but it switches to classical music for Bengston when he is working there.

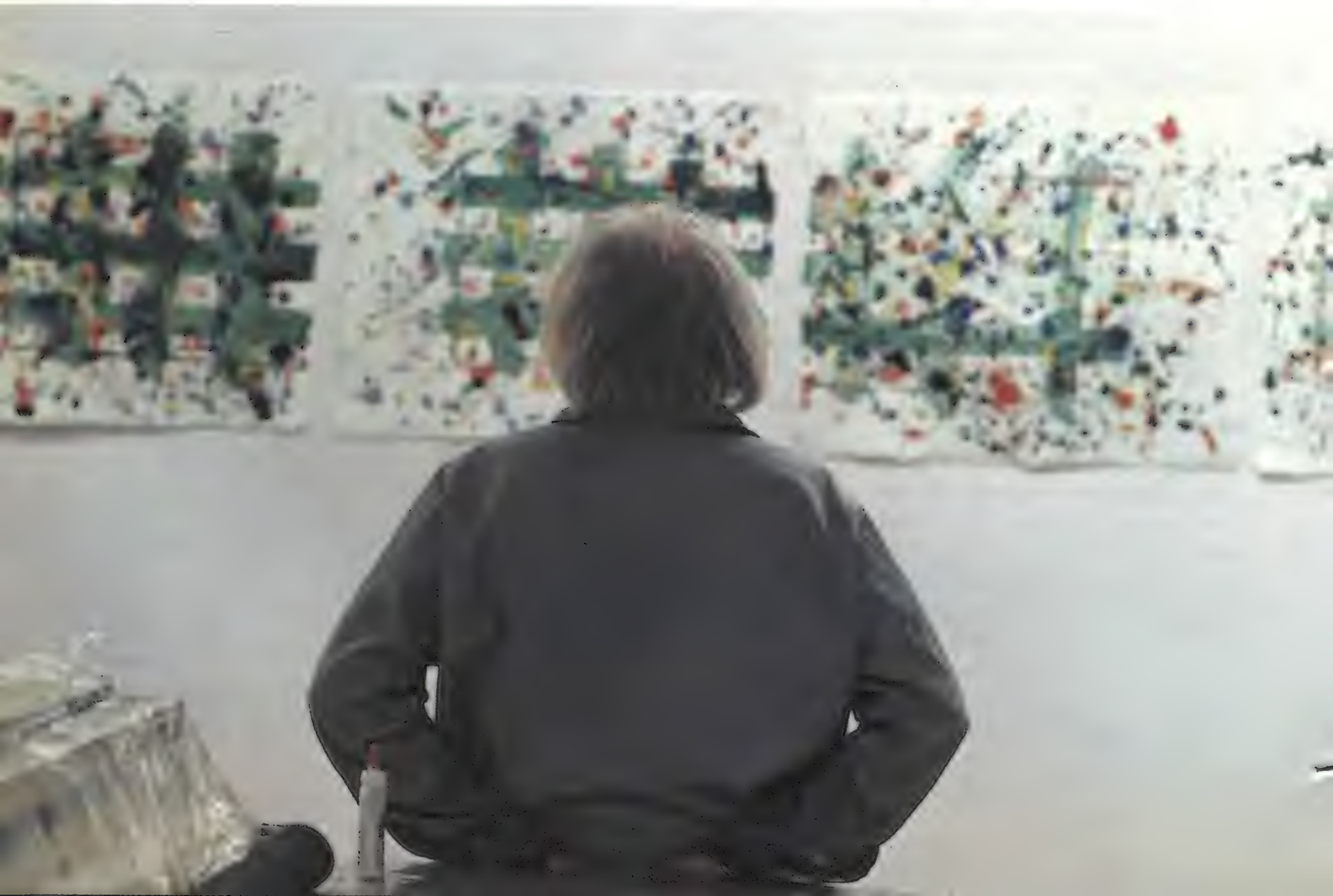
The Lucite deckle Noland needed to guide the application of his colors was as painstakingly designed and manufactured by Garner as are the rubber forms used for molding the Louise Nevelson reproductions.

Bengston lodges at the Tullises' secluded home in Orinda, California, so he can jog in the countryside before setting to work each day. And when Sam Francis comes to town, the studio's makeshift kitchen is stocked with herbs, spices and natural ingredients for his organic meals.

The nuts and bolts of the business, as well as the paper, are handled by Ann, who has acted as official director of Experimental Printmaking since Garner's appointment to the University. She ships the finished products to the dealers, does the bookkeeping and documents each work for their records. Individual works created at Experimental Printmaking are sold to dealers. All prints rejected by the artists are dumped back into the blender.

Tullis has just completed negotiations for a long-term lease on his waterfront space in San Francisco. All of the prints shown in Sam Francis' successful March show at the Los Angeles County Art Museum were produced at Experimental Printmaking. Hollywood's Oscar may be gold-plated britannia metal, but this year's winners of the American Book Awards received Louise Nevelson reproductions cast by the Tullises—in paper.

Sam Francis contemplates some of "paperwork" made at the Tullis studio, the results of a technique he worked on for six years. Francis unveiled them in a showing in New York City last December.



SIX ANCIENT MACHINES. AND ONE NEW ONE.

The first six are the basic machines. The seventh is a silicon chip.

Basic machines provide a mechanical advantage.

Silicon chips are different. They provide a *mental* advantage. Etched with microscopic circuits, they're the heart of the modern computer.

We make the comparison because, today, mechanical advantage isn't enough. America's waning productivity won't be improved just by working harder.

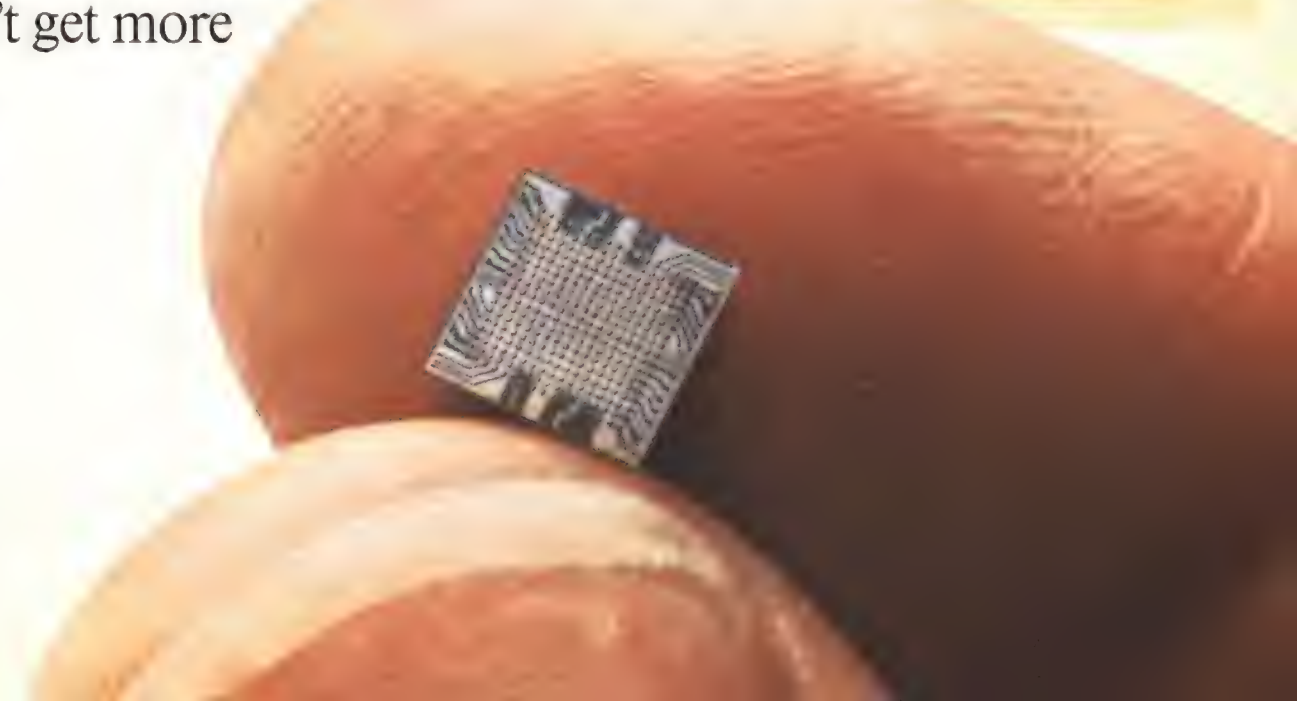
We have to work smarter, and silicon chips will help.

Armed with computers, old factories can behave like younger ones. With better use of information, assembly lines can be made to work with the assemblers instead of against them.

Heavy industry, technology firms, service companies must all become more productive, a challenge that demands ideas.

And just as levers alone don't move rocks, computers don't have ideas. But they give us an advantage.

They help us find solutions in time to solve the problems. You can't get more basic than that. IBM®

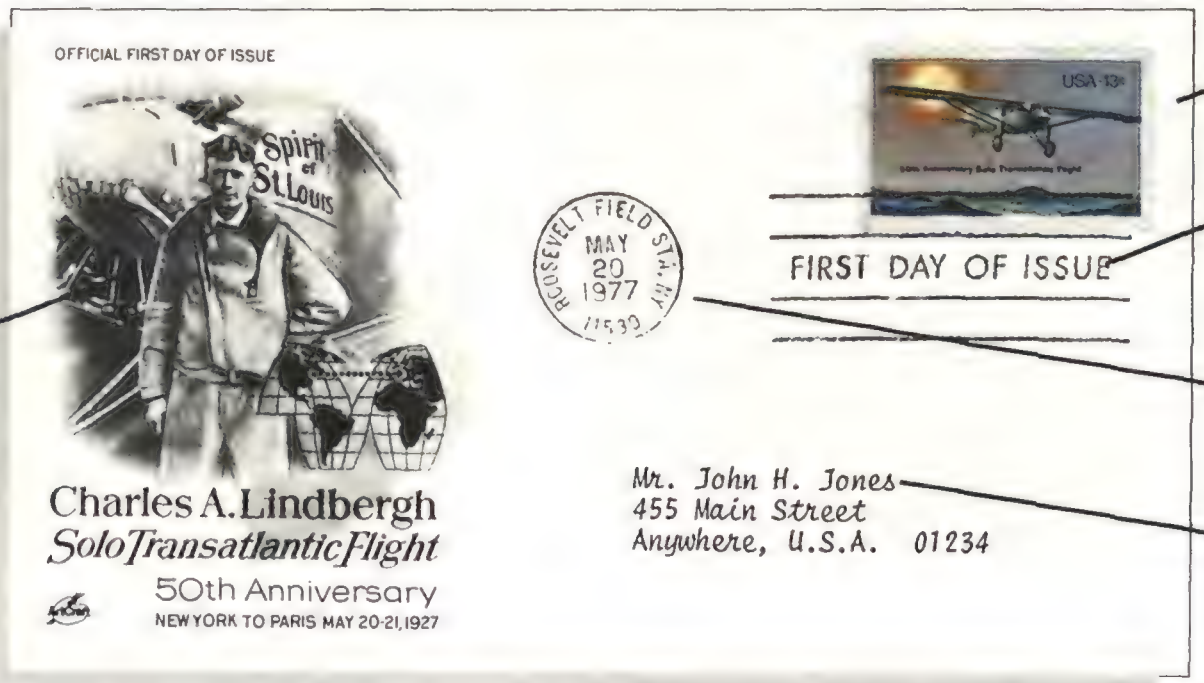


Readers of Smithsonian are invited to

Enjoy collecting a stirring panorama preserved for future generations.

- **At a surprisingly modest cost, you can receive official First Day Covers for each new commemorative stamp issue of the United States.**
- **Each First Day Cover will be individually addressed and sent automatically to the name and address you designate.**

What is a First Day Cover?



Handsome "cachet" designed for each new issue, strikingly executed by steel engravings on the envelope.

Official U.S. commemorative postage stamp.

The official "First Day of Issue" cancellation.

Postmark of the officially designated post office issuing the new stamp.

Your own name and address is on every First Day Cover, and each is mailed directly to your own home.

The United States regularly honors the important people, places and events in its history through the issuance of official U.S. commemorative postage stamps. When a new stamp is to be issued, one, and only one, post office is designated for the official "First Day" cancellation and postmark. The privately designed special envelope bearing the new stamp, cancelled with the exact date of first issue of the officially designated post office, is a First Day Cover.

First Day Covers are fascinating collectors' items. As you can well imagine, the combination of an historic stamp, cancelled with the "First Day of Issue" postmark of the officially designated post office on a specially designed envelope, results in a collector's item of the first order. One that has been prized by collectors like Dwight D. Eisenhower, George C. Marshall, Franklin D. Roosevelt, and others with the foresight to preserve yesterday and today for tomorrow.

The best time to obtain these prized collectors' items is when they are issued. This is now made easier than ever by the Postal Commemorative Society.

Postal Commemorative Society members receive everything they need to build and maintain a personalized "mint condition" collection of U.S. First Day Covers. For each cover issued, the Society provides an exclusive custom designed display page, especially made for the member's personalized album.

© Postal Commemorative Society
(a division of MBI, Inc.)

# of U.S. history. To be treasured now and

First Day Covers combine art and history in a tribute to our American heritage. Eisenhower...the Battle of Bunker Hill...the writing of the Star-Spangled Banner ...the landing of astronauts on the moon...such are the subjects chosen by the United States for national honor on commemorative postage stamps.

The post office chosen for a first day of issue usually bears particular significance to the subject commemorated. For example, a first day cover of the 1977 Charles Lindbergh Transatlantic Flight stamp bears the "First Day of Issue" postmark of Roosevelt Field Station, N.Y., the site of Lindbergh's take-off on his historic flight.

The nation's leading artists and designers are called upon to portray the subjects chosen. Such commissions naturally are highly prized, and bring forth the best efforts of the distinguished artists selected.

Membership in the Postal Commemorative Society makes it possible to easily collect First Day Covers as they are issued. The Society will guarantee that you receive a personally addressed First Day Cover for each new U.S. commemorative stamp issue. All details of arranging for your First Day Covers to be sent to you will be handled by the Society.

Commemorative stamps are issued by the United States at the average rate of about one every three weeks. You will receive a beautiful First Day Cover for every United States commemorative stamp issue during the term of your membership at a total cost of just $1.95 each.

As a member, you will also receive the Society's exclusive display page for each new issue. Each beautiful, specially designed page is die-cut to hold the First Day Cover, and contains a full description of all important historical information about the subject of the commemorative issue. These pages are available only to Society members.

At the surprisingly low cost of $1.95 per issue, you will be building a truly worthwhile First Day Cover collection to be enjoyed now and preserved for future generations of your family. Shouldn't you really give it a try?

Becoming a member now brings you an important collector's bonus at no additional cost. The Postal Commemorative Society makes available to each new member a handsome collector's album with the member's name hand-embossed on the cover. This album, especially designed to hold the Society's display pages, makes it possible for members to keep each new First Day Cover in perfect condition. It is yours free, if you join now!

MEMBERSHIP APPLICATION

030

Postal Commemorative Society
47 Richards Ave., Norwalk, Conn. 06857

NO PAYMENT REQUIRED. SIMPLY MAIL THIS MEMBERSHIP APPLICATION.

Please enter a membership and address First Day Covers as indicated below. Send me a U.S. First Day Cover and display page for each new U.S. commemorative stamp issue (normally 15 to 20 per year) at a total cost of just $1.95 per issue. Bill me $15.60* to cover the total cost of my first eight issues.

As a new member, I will also receive a personalized collector's album at no additional charge. I may cancel my membership at any time upon 30 days' notice.

Mr., Mrs., Miss _____

Address _____

City _____ State _____ Zip _____

Personalize my album as follows: _____
(Print name to be shown on album)

☐ The above membership is a gift membership — please bill me. (Indicate your name and address on a separate sheet of paper and provide information on any additional gift memberships you wish to give.)

☐ As a convenience, I prefer to pay $15.60* now for each membership. (Simply mail the completed application with check payable to P.C.S. to the address above.)

*Conn. residents pay $16.77 for each membership to include sales tax.

By Rudolph Chelminski

Forbes Museum's little soldiers aren't playthings

From British guardsmen to Zulu warriors, miniature armies mobilize in Tangier—and prices escalate like the defense budget

In lifelike miniature diorama at Forbes Museum, Chief Cetawayo's superbly trained Zulus slice into

In December 1975, an English journalist named Peter Johnson lifted the veil on a sensational, but until then undisclosed, historical encounter. It took place in Nuremberg, he revealed, and it consisted of a friend of his on one side and, on the other, no less than Adolf Hitler himself, accompanied by Göring, several generals and a sinister covey of SS officers.

"Göring had a porcelain head," wrote Johnson, dead serious, "and, I'm happy to report, several SS men had wet rot."

It's worth hoodwinking one's readers to get in a line like that. Even if one has to admit in the same paragraph that the Führer was in tip-top shape, his spring-loaded saluting arm working impeccably.

Of course, the Third Reich all-star team Johnson described was composed of toy soldiers, more specifically a selection of kaolin-based compositions laid over wire skeletons, hand-painted in natural colors and manufactured in the mid-Thirties by the German firms of Elastolin and Lineol. Nuremberg was holding one of the periodic auctions of toy soldiers which occur at odd places and unpredictable moments around Europe and America whenever some buff passes to his reward, leaving his miniature armies behind him; whenever a minor museum clears away unwanted stock; or, most simply, whenever someone needs money. And money there is in toy soldiers, ready and waiting. That splendid Hitler with the articulated arm, for example, finally went for the equivalent of about $80, and it is far from being the most expensive such toy ever sold. Tin soldiers have come a long way since they were playthings for small boys and cost a carefully saved quarter or so apiece.

So far have they come, in fact, that their final consecration has arrived: the world at last has its museum of toy soldiers. This small Valhalla, called the Forbes Museum of Military Miniatures, is located in a blindingly white stucco palace in Tangier (opposite), not far from the Casbah, overlooking the blue haze of the Strait of Gibraltar, plied by ferryboats and overseen by some of the world's toughest customs agents.

The man behind the palace and the museum is Malcolm Forbes, owner and publisher of the American business magazine that bears his name. The 60,000 warriors of every imaginable race and nation that people the Forbes Museum are the fruit of his boyhood games, now prolonged by his shrewd adult investor's eye into a collection that is worth an estimated million dollars.

The author is a frequent contributor whose latest article (February 1979) was on artist Robert Tatin.

a gallant scarlet-coated British regiment in the grim fighting for Africa in the late 1870s.

To house collection Malcolm Forbes refurbished former home of the representative of Morocco's sultan.

Peter Johnson, the man who bamboozled his readers with the Hitler scenario, is one of Europe's leading scholars of miniaturization of the military and author of a forthcoming book surveying the field of toy- and model-soldier collecting, *Toy Armies.* Also a cocurator of the Forbes Museum, he can tell you precisely (to the millimeter) how far tin soldiers have come. He points out that they are not "tin" soldiers at all—that's a lay term which brings pain to his face and a sigh to his lips. They aren't lead soldiers either. Usually they're made of tin-lead alloy, easy to cast rigid enough, but not too brittle. These soldiers are not to be confused with models, Johnson warns, which are not toys at all but specially constructed miniatures, correct down to the tiniest detail of equipment.

The Nazi-era kaolin technique was an interesting innovation, wrote Johnson in *Art & Antiques,* which "lent itself to the creation of realistic poses, and there are some very lifelike groups such as signalmen releasing carrier pigeons in the field and comrades helping wounded soldiers; there are troops falling at the moment of being shot, and even men with arms upraised in surrender—although personally I have never come across a German in the latter pose."

When Johnson was trying to put in order a huge collection that Forbes purchased last year from the Federal Republic's military history museum at Rastatt, halfway between Baden-Baden and Karlsruhe, he was baffled by a curious lot of hybrid troops that didn't fit into any military history that he could think of. They were black Africans, in brown uniforms, which, though certainly German in appearance, could have been worn at any time in the century. A clue came with the fact that they were often shown seated next to white troops in half-tracks and armored personnel carriers such as General Rommel used in the North African campaigns.

But Germany had no black African troops in World War II. Johnson surmises that this recruitment of the natives was a bit of imperialistic wishful thinking on the part of the manufacturer, who doubtless was looking forward to the first few decades of the thousand-year dictatorship which would dominate the world, Africa included.

Johnson's expertise in history and hypothesis came to him after nearly 20 years of working on the London *Daily Express,* a paper with a jingoistic swagger in its editorial manner. Johnson admits that ten years ago, when he walked away from Fleet Street, he "didn't know the difference between a Ming vase and a teapot," but with the help of his wife, Anne, he underwent professional recycling. Together, they also run a little shop in the London antiquities supermarket called Antiquarius. Their specialty happens to be toy soldiers. And that was where they both met millionaire Malcolm Forbes.

"He came round to the shop looking for toy soldiers, but I had no idea who he was," remembers Anne. "We got to talking, and he asked if we had any more

Photographs by Enrico Sarsini

items at home, so he came out and looked at our personal collection. He said something about a palace in Tangier, and the next thing we knew, he was asking if we'd like to go down and put his wee collection in order."

Wee, indeed. Anne and Peter, as cocurators of the new museum, found themselves faced with an initial lot of 20,000, which swelled to 60,000 after Forbes' raid on Rastatt. The Palais Mendoub, Forbes' "wee" vacation retreat, was the former home of the Sultan's representative in Tangier and requires a permanent maintenance staff of 15. Forbes had bought it on the occasion of the launching of an Arab-language edition of his magazine, and concluded that its largely empty halls (he visits several times a year) would do nicely

In various stances, soldiers of different Scottish regiments (note their varied tartans) form a defensive perimeter in the desert. One of their officers scouts the unseen enemy from atop a boulder.

to house his toys despite the humidity and the danger of wet rot.

The museum as the Johnsons set it up (it opened officially in August 1978) consists of 24 displays and dioramas, set in cabinets in three rooms, with a special extension being built this year to house the Rastatt acquisition. The show covers a dizzying variety of soldiering, from pre-Roman times all the way to Vietnam, and passing by way of the American Civil War, the Napoleonic campaigns and the skirmishes between white colonizers of South Africa and inhospitable Zulu warriors. The figurines themselves range from 18th-century tin "flats" to the later half-round and full-round types, and also some custom-built contemporary models.

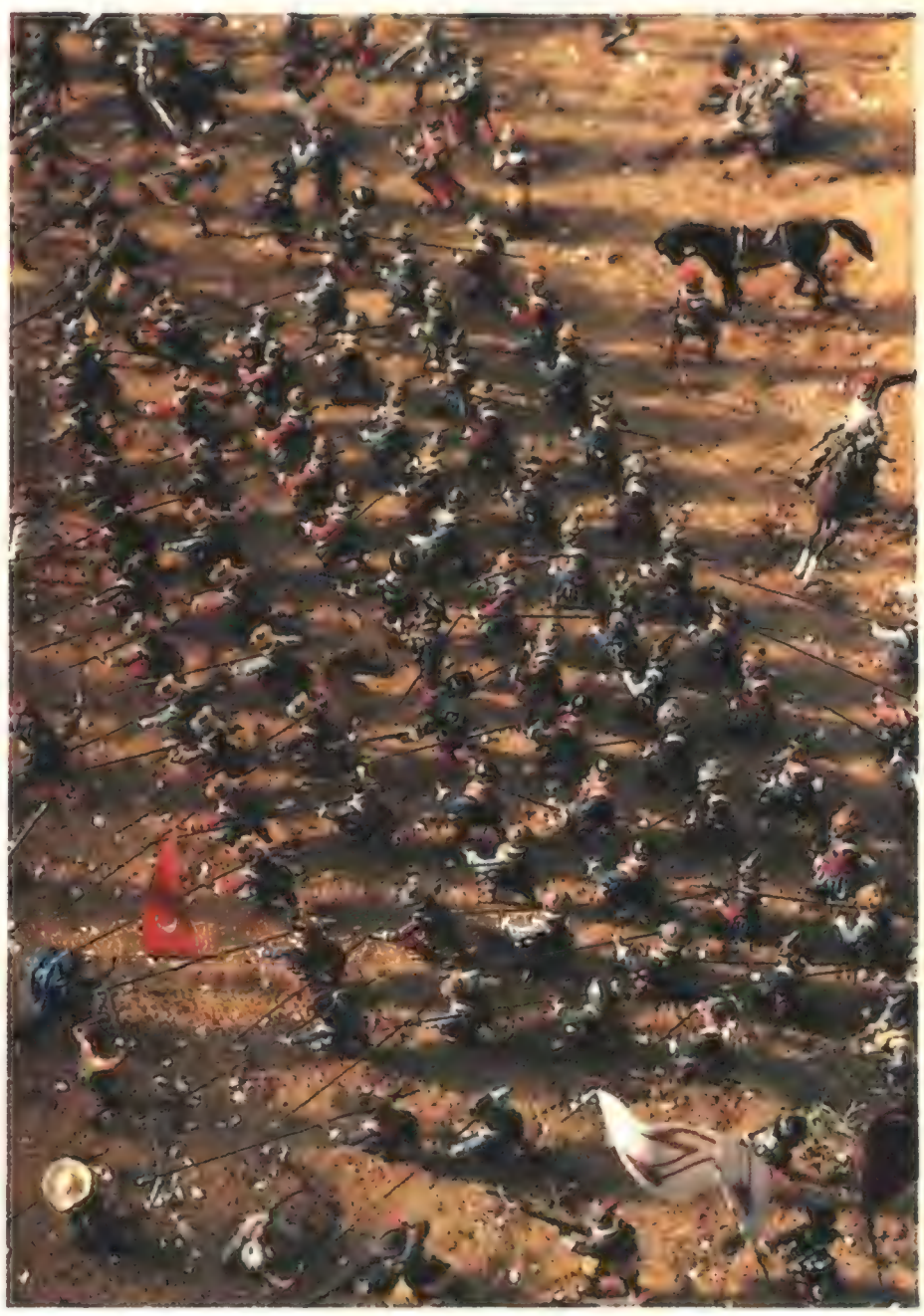
The impetus for the commissioning of these latter models came from geography and diplomacy. Since the museum was situated in an Islamic country, and since His Royal Highness the Crown Prince Sidi Mohammed himself was to be present at the opening ceremony, it seemed a good idea to set up some prominent displays of the Arab side of things, in spite of the fact that toy-soldier manufacturing was hardly one of the historical Arab specialties, and the North Africans who showed up in European collections tended to be either the enemy who was routed or, like the black African Hitlerian hybrids, natives who had been enrolled among the "good" guys.

Arab victory at the Battle of Three Kings

Never mind. The museum hired British designer John Ciuffo to hand-build a diorama that was exclusively Moroccan, representing the controversial "Green March" when thousands of Moroccans marched south in 1975 into the former colony of Spanish Sahara. The Green March diorama may be a good example of contemporary modeling art, but the outcome is still uncertain, and besides, it lacks the color and excitement of a head-on military engagement. It was this gap that the Johnsons set out to fill when they opened their history books and went searching for an appropriate Arab battle that could close the tour of the museum on a suitably exciting note. The criterion they were seeking was straightforward enough.

"We had to find a battle in which the Arabs kicked the hell out of the Europeans," Johnson explained. They found it with the Battle of the Three Kings, which took place on August 4, 1578, near the Oued el Maghazen River in northwest Morocco. The three kings in question were the reigning Sultan Abd-el-Malek on one side and his adversary Sultan Moulay Mohammed in league with Don Sebastian, child king of Portugal. All three were to die before the day was over, Don Sebastian and Mohammed as a consequence

Tiny figures display uniforms and flags of Czarist Russia, Germany, Cuba, Britain, Spain and others.



Portuguese troops of Don Sebastian meet a Moroccan charge in diorama of Battle of Three Kings, 1578.

Dramatic scenes in the Battle of Waterloo: French infantry (left) batter at the gates of a chateau on the battlefield. Shelling sets it ablaze and Germans form a bucket brigade (above) to douse flames.

of the battle, Malek as a consequence of poisoning. But the combined Portuguese, Spanish, Italian, German and Papal army was well kicked, indeed, by the Moorish forces of Sultan Abd-el-Malek, and its cumbersome baggage train and host of camp followers suffered the inevitable outrages of such affairs. The 600 handmade figures of the battle were designed, modeled and painted by Edward Suren, who enjoys—as Johnson points out—a worldwide reputation among soldier collectors for his attention to detail.

Who visits the museum? Not much of anyone as yet, admits Anne, even though it is free of charge and open year round. (The palace staff keeps it going on a permanent caretaker basis. The Johnsons themselves are present for less than a month a year.) Commentary and printed material are offered in English, French and Arabic, the three languages that animate Tangier, but in spite of these blandishments the visitors have been mainly restricted to school groups.

"It's a lovely show, though," says Anne.

Although on the face of things it may appear slightly absurd for grown men and women to collect toy soldiers, many stranger things have been collected. Stamps in an album are not, a priori, any more colorful or esthetically pleasing than a kilted clansman or a mounted hussar. As for prices, Johnson points to a 25-piece group representing the English Salvation Army, costing five shillings in 1936, which recently fetched 1,450 pounds sterling at a London auction. The logic of Forbes' investment becomes clearer with such markups as that.

"At Antiquarius there's already a dealer specializing in Beatlemania," reports Anne. "What *doesn't* one collect these days?"

The history of military miniatures of course goes hand in hand with the history of toys, and although the 20-centimeter-high painted wooden warriors discovered in 11th-Dynasty Egyptian tombs can hardly be classed in this category, Johnson says that there is evidence to suggest that both the Greeks and Romans made soldiers as children's playthings. The few remaining examples of such toys from medieval Europe are special, one-of-a-kind presents such as the miniature mounted lancers that Maximilian I, the Holy Roman Emperor, ordered from an Augsburg armorsmith for ten-year-old King Ludwig II of Hungary. Louis XIV, who is said to have owned battalions of silver toy soldiers, selfishly cheated posterity out of their enjoyment by melting them down to finance his real, full-scale wars.

It was not until the end of the 18th century that toy soldiers came to be manufactured on any appreciable scale. First into the game were the Germans. The tin "flats" turned out at Nuremberg were often designed by artists and engraved by master craftsmen (and are worth small fortunes today). But as mass-production techniques began developing early in the next century, just in time for all that splendidly colorful carnage of the Napoleonic period, the attention to detail became rather less fanatical. Several European countries manufactured them in those days, but the most beautiful, in Johnson's opinion, were made by the Germans and the French. Companies with names like Heyde (destroyed in the Dresden fire raids

Museum nods toward the United States with a display of Union skirmishers in the Civil War (left) and notes World War I with British Tommies (right), on their way to disaster on the Somme in 1916.

of World War II) and Mignot or Lucotte elicit instant recognition among the 20,000 or so people in the world whom the Johnsons estimate to be serious collectors of military miniatures.

In 1893, one of the great seminal dates in toy soldiery, everything in the business was turned topsy-turvy when William Britain invented the centrifugal technique of hollow casting. Britain poured his molten metal into molds, as did his competitors, but he added a quick spinning movement to the process, thus forcing the excess metal out through the hole that soldiers have in the tops of their heads. The result was a perfectly cast soldier, but one that was hollow, lighter and considerably cheaper.

"He took the world market by storm," says Johnson. "Took virtually the entire market to himself. He made every regiment in the British army and hundreds of foreign ones as well, complete with their supply teams, medics and accessory personnel. Because of his huge production, most of the soldiers you see in collections today are British. The marvelous French and German ones just vanished. Lost."

The company learned that color was the real magic of toy soldiers in the first World War, and even more positively in 1938, when the firm issued a new "khaki" line of military equipment, in accordance with the modern conceptions of service gear. It was a turkey. Children throughout the world stayed away from these drab and boring toys, preferring all manner of tartaned, turbaned or shakoed parade-ground dandies, in spite of their unsuitability for modern warfare. Who wants a radio operator or a clerk-typist when he can have a lancer or a hussar? Britain's drew the commercial lesson and eased up on the new khaki line. But now, ironically enough, the very rarity of some of these dreary pieces makes them among the most prized by collectors.

As in the case of the Salvation Army, Britain's made occasional excursions away from the armed forces. There was the farm series they put out in the Twenties, when the sound of cannon grew increasingly distant, and it seemed that the company might have to try something different on their little customers. The new farm set was presented in full array to Queen Mary, Johnson says, and her reaction proved that Britain's R&D department had not been fully on their toes.

"But where is the idiot?" wondered Her Majesty, looking the figures over. "No English village is complete without the idiot."

Britain's hastened back to the drawing board to produce the desired object, and now Johnson counts one of them among his most cherished personal treasures. He proudly displays the idiot for visitors, and a good one it is, too, with his ill-fitting clothes, his unkempt shock of hair, his big stick and goggle eyes. "He's worth $100 alone," Johnson confides.

Although the toys were cast in factories, the painting of their features, clothing and gear could be done in no other way than by hand. Because of this technical impasse a fairly considerable cottage industry developed, involving mostly London housewives who received parcels of the basic casts along with paints and coloring charts, and then proceeded to pass their free time bringing the little silver men to life.

Forbes Museum of Military Miniatures

Butterfly clinging to American flag carried by a West Point cadet gives an idea of his size.

Queen Elizabeth with a moustache? Perhaps it was an accident, perhaps a wry joke, but it's valuable.

Derek Bayes

They were paid only a pittance, says Johnson, and apparently realized it, because there was the incident of the queen. Whether it was a form of protest will never be known, but it involved some now-rarish models of the present Queen Elizabeth, riding sidesaddle, accompanied by a solemn troupe of mounted officers. Every officer, Britain's coloring chart stipulated, was to be painted with a moustache.

What had to happen happened: several of the Queen Elizabeths came back to Britain's, passed a desultory inspection and thence went out to the world at large —sporting regulation moustaches (left). A queen with a moustache now fetches 15 or 20 pounds sterling.

With the advent of television, the battery-powered robot and electronic gimmickry, the magic of the traditional toy soldiers wore thinner, Johnson explains, as their prices rose relatively higher. The market began drying up. The last ones were made in the Sixties, and then it was the end of the toy soldier industry. The military miniatures that continue to be produced today are either cheap plastic dolls of no historical interest whatever or finely detailed, expensive models made for adult collectors. But they are not toy soldiers. The crude plastic toys that now flood the juvenile market seem like poor substitutes indeed for the glorious peacockery of the old days, but they are infinitely easier and cheaper to make, and must reflect the throwaway spirit of our time.

As Peter and Anne Johnson continue to landscape and lay out the battles of the Forbes collection, they are certain to respect historical accuracy and the minutiae of a particular campaign (What was the season of the year? At what stage of the battle are we? What time of day?) with all the painstaking devotion that characterizes adult collectors of childish objects. They know that the least error of positioning or chronology will bring remonstration upon their heads, a tiny but bothersome professional mark against their reputations, delivered by another military buff more erudite —or thorough—than they. They are, then, very careful and very serious about their responsibilities.

Still, Johnson is the same man who wrote a while back: "As any man, of any age, will tell you, it's fun playing with toy soldiers." And although he can look with lofty disdain on the huge industry of plastic toys and contemporary war games, there inevitably comes a moment, as he caresses one of the finely detailed figures of armies now long dead and gone, when he admits with a secret smile, "With the Forbes collection you could play some fantastic war games."

The Johnsons, curators of Forbes Museum, review troops, including pre-World War II Wehrmacht (rear).

Derek Bayes

By Wendell Berry

Abundant reward of reclaiming a 'marginal' farm

A Kentucky poet finds working the land provides both a bountiful subsistence and a clearer perspective on our history

One day in the summer of 1956, leaving home for school, I stopped on the side of the road directly above the house where I now live. From there you could see a mile or so across the Kentucky River Valley, and perhaps six miles along the length of it. The valley was a green trough full of sunlight, blue in its distances. I often stopped here in my comings and goings, just to look, for it was all familiar to me from before the time my memory began: woodlands and pastures on the hillsides; fields and croplands, wooded slough-edges and hollows in the bottoms; and through the midst of it the treelined river passing down from its headwaters near the Virginia line toward its mouth at Carrollton on the Ohio.

Standing there, I was looking at land where one of my great-great-great-grandfathers settled in 1803, and at the scene of some of the happiest times of my own life, where in my growing-up years I camped, hunted, fished, boated, swam and wandered—where, in short, I did whatever escaping I felt called upon to do. It was a place where I had happily been, and where I always wanted to be. And I remember gesturing toward the valley that day and saying to the friend who was with me: "That's all I need."

I meant it. It was an honest enough response to my recognition of its beauty, the abundance of its lives and possibilities, and of my own love for it and interest in it. And in the sense that I continue to recognize all that, and feel that what I most need is here, I can still say the same thing.

Kentucky River winds past Lanes Landing Farm, which once served as a river depot for area's supplies.

And yet I am aware that I must necessarily mean something different—or at least a great deal more—when I say it now. Then I was speaking mostly from affection, and did not know, by half, what I was talking about. I was speaking of a place that in some ways I knew and in some ways cared for, but did not live in. The differences between knowing a place and living in it, between cherishing a place and living responsibly in it, had not begun to occur to me. But they are

Berrys added plumbing, insulation to house (center); use outbuildings for food storage, winter feeding.

critical differences, and understanding them has been the chief necessity of my experience since then.

I married in the following summer, and in the next seven years lived in a number of distant places. But, largely because I continued to feel that what I needed was here, I could never bring myself to want to live in any other place. And so we returned to live in Kentucky in the summer of 1964, and that autumn bought the house whose roof my friend and I had looked down on eight years before, and with it "twelve acres more or less." Thus began a profound change in my life. Before, I had lived according to expectation rooted in ambition. Now I began to live according to a kind of destiny rooted in my origins and in my life. One should not speak too confidently of one's "destiny"; I use the word to refer to causes that lie deeper in history and character than mere intention or desire. In buying the little place known as Lanes Landing, it

Photographs by Tanya Berry

"Den" Berry, the author's son, inspects a three-day-old lamb under the watchful eyes of its mother.

now seems to me, I began to obey these deeper causes.

We had returned so that I could take a job at the University of Kentucky in Lexington. And we expected to live pretty much the usual academic life: I would teach and write; my "subject matter" would be, as it had been, the few square miles in Henry County where I grew up. We bought the tiny farm at Lanes Landing, thinking that we would use it as a "summer place," and on that understanding I began, with the help of two carpenter friends, to make some necessary repairs on the house. I no longer remember exactly how it was decided, but that work had hardly begun when it became a full-scale overhaul. By so little our minds had been changed: this was not going to be a house to visit, but a house to live in. It was as though, having put our hand to the plow, we not only did not look back, but could not. We renewed the old house, equipped it with plumbing, bathroom and oil furnace, and moved in on July 4, 1965.

Once the house was whole again, we came under the influence of the "twelve acres more or less." This acreage included a steep hillside pasture, two small pastures by the river, and a "garden spot" of less than half an acre. We had, besides the house, a small barn in bad shape, a good large building that once had been a general store, and a small garage also in usable condition. This was hardly a farm by modern standards, but it was land that could be used, and it was unthinkable that we would not use it. The land was not good enough to afford the possibility of a cash income, but it would allow us to grow our food—or most of it. And that is what we set out to do.

In the early spring of 1965 I had planted a small orchard; the next spring we planted our first garden. Within the following six or seven years we reclaimed the pastures, converted the garage into a henhouse, rebuilt the barn, greatly improved the garden soil, planted berry bushes, acquired a milk cow—and were producing, except for hay and grain for our animals, nearly everything that we ate: fruit, vegetables, eggs, meat, milk, cream and butter. We built an outbuilding with a meat room and a food-storage cellar. Because we did not want to pollute our land and water with sewage, and in the process waste nutrients that should be returned to the soil, we built a composting privy. And so we began to attempt a life that, in addition to whatever else it was, would be responsibly agricultural. We used no chemical fertilizers. Except for a little rotenone, we used no insecticides. As our land and our food became healthier, so did we.

We were not, of course, living an idyll. What we had done could not have been accomplished without difficulty and a great deal of work. And we had made some mistakes and false starts. But there was great satisfaction, too, in restoring the neglected land, and in feeding ourselves from it.

Meanwhile, the 40-acre place adjoining ours on the downriver side had been sold to a "developer," who

Wendell Berry is a writer, teacher and proponent of small-scale farming. His most recent book is A Part, *which includes poems about his farm.*

Gander hisses threateningly at an intruder as goose and goslings head for safety of horse barn.

planned to divide it into 114 lots for "second homes." This project was probably doomed by the steepness of the ground and the difficulty of access, but a lot of bulldozing—and a lot of damage—was done before it was given up. In the fall of 1972, the place was offered for sale and we were able to buy it.

We now began to deal with larger agricultural problems. Some of this new land was usable; some would have to be left in trees. There were perhaps 15 acres of hillside that could be reclaimed for pasture, and about two-and-a-half acres of excellent bottomland on which we would grow alfalfa for hay. But it was a mess, all of it badly neglected, and a considerable portion of it badly abused by the developer's bulldozers. The hillsides were covered with thicket growth; the bottom was shoulder high in weeds; the diversion ditches had to be restored; a bulldozed gash meant for "building sites" had to be mended; the barn needed a new foundation, and the cistern a new top; there were no fences. What we had bought was less a farm than a reclamation project—which has now, with a later purchase, grown to 75 acres.

While we had only the small place, I had got along very well with a Gravely "walking tractor" that I owned, and an old Farmall A that I occasionally borrowed from my Uncle Jimmy. But now that we had increased our acreage, it was clear that I could not continue to depend on a borrowed tractor. For a while I assumed that I would buy a tractor of my own. But because our land was steep, and there was already talk of a fuel shortage—and because I liked the idea—I finally decided to buy a team of horses instead. By the spring of 1973, after a lot of inquiring and looking, I had found and bought a team of five-year-old sorrel mares. And—again by the generosity of my Uncle Jimmy, who has never thrown any good thing away—I had enough equipment to make a start.

Farming as it was done in my boyhood

Though I had worked horses and mules during the time I was growing up, I had never worked over ground so steep and problematical as this, and it had been 20 years since I had worked a team over ground of any kind. Getting started again, I anticipated every new task with uneasiness, and sometimes with dread. But to my relief and delight, the team and I did all that needed to be done that year, getting better as we went along. And over the years since then, with that team and others, my son and I have carried on our farming the way it was carried on in my boyhood, doing everything with our horses except baling the hay. And we have done work in places and in weather in which a tractor would have been useless. Experience has shown us—or reshown us—that horses are not only a satisfactory and economical means of power, especially on such small places as ours, but are probably *necessary* to the most conservative use of steep land. Our farm, in fact, is surrounded by potentially excellent hillsides that were maintained in pasture until tractors replaced the teams.

Another change in our economy (and our lives) was accomplished in the fall of 1973 with the purchase of our first wood-burning stove. Again the petroleum shortage was on our minds, but we also knew that from the pasture-clearing we had ahead of us we would have an abundance of wood that otherwise would go to waste—and when that was gone we would still have our permanent woodlots. We thus expanded our subsistence income to include heating fuel, and since then have used our furnace only as a "backup system" in the coldest weather and in our absences from home. The horses also contribute significantly to the work of fuel-gathering; they will go easily into difficult places and over soft ground or snow where a truck or a tractor could not move.

As we have continued to live on and from our place, we have slowly begun its restoration and healing. Most of the scars have now been mended and grassed over, most of the washes stopped, most of the buildings

Severe "slip," caused by a flood in 1978, threatens the old Lanes Landing store and nearby shed.

made sound; many loads of rocks have been hauled out of the fields and used to pave entrances or fill hollows; we have done perhaps half of the necessary fencing. A great deal of work is still left to do, and some of it—the rebuilding of fertility in the depleted hillsides—will take longer than we will live. But in doing these things we have begun a restoration and a healing in ourselves.

I should say plainly that this has not been a "paying proposition." As a reclamation project, it has been costly both in money and in effort. It seems at least possible that, in any other place, I might have had little interest in doing any such thing. The reason I have been interested in doing it here, I think, is that I have felt implicated in the history, the uses and the attitudes that have depleted such places as ours and made them "marginal."

I had not worked long on our "twelve acres more or less" before I saw that such places were explained almost as much by their human history as by their nature. I saw that they were not "marginal" because they ever were unfit for human use, but because in both culture and character *we* had been unfit to use them. Originally, even such steep slopes as these along the lower Kentucky River Valley were deep-soiled and abundantly fertile; "jumper" plows and generations of carelessness impoverished them. Where yellow clay is at the surface now, five feet of good soil may be gone. I once wrote that on some of the nearby uplands one walks as if "knee-deep" in the absence of the original soil. On these steeper slopes, I now know, that absence is shoulder-deep.

That is a loss that is horrifying as soon as it is imagined. It happened easily, by ignorance, indifference, "a little folding of the hands to sleep." It cannot be remedied in human time; to build five feet of soil takes perhaps 50,000 years. This loss, once imagined, is potent with despair. If a people, in adding 150 years to itself, subtracts 50,000 years from its land, what is there to hope?

And so our reclamation project has been, for me, less a matter of idealism or morality than a kind of self-preservation. A destructive history, once it is understood as such, is a nearly insupportable burden. Understanding it is a disease of understanding, depleting the sense of efficacy and paralyzing effort, unless it finds healing work. For me that work has been partly of the mind, in what I have written, but that seems to have depended inescapably on work of the body and of the ground. In order to affirm the values most native and necessary to me—indeed, to affirm my own life as a thing decent in possibility—I needed to know in my own experience that this place did not have to be abused in the past, and that it can be kindly and conservingly used now.

With certain reservations that must be strictly borne in mind, our work here seems to have begun to offer some of the needed proofs.

Bountiful as the vanished original soil of the hillsides may have been, what remains is good. It responds

Intensive use and abuse of the valley's land has caused riverbank erosion along the length of the farm.

well—sometimes astonishingly well—to good treatment. It never should have been plowed (some of it never should have been cleared), and it never should be plowed again. But it can be put in pasture without plowing, and it will support an excellent grass sod that will in turn protect it from erosion, if properly managed and not overgrazed.

Land so steep as this will not support a commercial, broken-field agriculture. To subject it to such an expectation is simply to ruin it, as its history shows. Our rule, generally, has been to plow no steep ground, to maintain in pasture only such slopes as can be safely mowed with a horse-drawn mower, and to leave the rest in trees. We have increased the numbers of livestock on our pastures gradually, and have carefully rotated the animals from field to field, in order to avoid overgrazing. Under this use and care, our hillsides have mended and they produce more and better pasturage every year.

As a child, I always intended to be a farmer. As a young man, I gave up that intention, assuming that I could not farm and do the other things I wanted to do. And then I became a farmer almost unintentionally and by a kind of necessity. That wayward and necessary becoming—along with my marriage, which has been intimately a part of it—is the major event of my life. It has changed me profoundly from the man and the writer I would otherwise have been.

There was a time, after I had left home and before I came back, when this place was my "subject matter." I meant that too, I think, on the day in 1956 when I told my friend, "That's all I need." I was regarding it, in a way too easy for a writer, as a mirror in which I saw myself. There was obviously a sort of narcissism in that—and an inevitable superficiality, for only the surface can reflect.

In coming home and settling on this place, I began to *live* in my subject, and to learn that living in one's subject is not at all the same as "having" a subject. One's relation to one's subject ceases to be merely emotional or esthetical, or even merely critical, and becomes problematical, practical and responsible as well. Because it must. It is like marrying your sweetheart.

A small income from "unfarmable" land

Though our farm has not been an economic success, as such success is usually reckoned, it is nevertheless beginning to make a kind of economic sense that is consoling and hopeful. Now that the largest expenses of purchase and repair are behind us, our income from the place is beginning to run ahead of expenses. As income I am counting the value of shelter, subsistence, heating fuel, and money earned by the sale of livestock. As expenses I am counting maintenance, newly purchased equipment, extra livestock feed, newly purchased animals, reclamation work, fencing materials, taxes and insurance.

If our land had been in better shape when we bought it, our expenses would obviously be much smaller. As it is, once we have completed its restoration, our farm will provide us a home, produce our subsistence, keep us warm in winter, and earn a modest cash income. The significance of this becomes apparent when one considers that most of this land is "unfarmable" by the standards of conventional agriculture, and that most of it was producing nothing at the time we bought it.

And so, contrary to some people's opinion, it *is* possible for a family to live on such "marginal" land, to take a bountiful subsistence and some cash income from it, and, in doing so, to improve both the land and themselves. (I believe however that, at least in the present economy, this should not be attempted without a source of income other than the farm. It is now extremely difficult to pay for the best of farmland by farming it, and even "marginal" land has become unreasonably expensive. To attempt to make a living

from such land is to impose a severe strain on land and people alike.)

I said earlier that the success of our work here is subject to reservations. The first is that land like ours—and there are many acres of such land in this country—can be conserved in use only by competent knowledge, by a great deal more work than is required by leveler land, by a devotion more particular and disciplined than patriotism, and by ceaseless watchfulness and care. All these are cultural values and resources, never abundant in this country, and now almost obliterated by the contrary values of the "affluent society."

One of my own mistakes will suggest the difficulty. In 1974 I dug a small pond on a wooded hillside that I wanted to pasture occasionally. The excavation for that pond—as I should have anticipated, for I had better reason than I used—caused the hillside to slump both above and below. After six years the slope has not stabilized, and more expense and trouble will be required. A small hillside farm will not survive many mistakes of that order. Nor will a modest income.

The true remedy for such mistakes is to keep from making them. It is not the piecemeal technological solution that our society now offers, but a change of cultural (and economic) values that will encourage in the whole population the necessary respect, restraint and care. Even more important, it is the possibility of settled families and local communities, in which the knowledge of proper means and methods, proper moderations and restraints, can be handed down, and so accumulate in place and stay alive; the experience of one generation is not adequate to inform and control its actions. Such possibilities are not now in sight.

The second reservation is that we live at the lower end of a watershed that has long been intensively used, and is increasingly abused. Strip mining, logging, extractive farming, and the digging, draining, roofing and paving that go with industrial and urban "development," all have seriously depleted the capacity of the watershed to retain water. This means not only that floods are higher and more frequent than they would be if the watershed were healthy, but that the floods subside too quickly, the watershed being far less a sponge, now, than it is a roof. The floodwater drops suddenly out of the river, leaving the steep banks soggy, heavy and soft. As a result, great strips and blocks of land crack loose and slump, or they give way entirely and disappear into the river in what people here call "slips."

The flood of December 1978, which was unusually high, also went down extremely fast, falling from bank top almost to pool stage within a couple of days. In the aftermath of this rapid "drawdown," we lost a block of bottomland an acre square. This slip, which is still crumbling, severely damaged our place, and may eventually undermine two buildings. The same flood started a slip in another place, which threatens a third building. We have yet another building situated on a huge (but, so far, very gradual) slide that starts at the river and, aggravated by two state highway cuts, goes almost to the hilltop. And we have serious riverbank erosion the whole length of our place.

What this means is that, no matter how successfully we may control erosion on our hillsides, our land remains susceptible to a more serious cause of erosion that we cannot control. Our riverbanks stand literally at the cutting edge of our nation's consumptive economy. This, I think, is true of many "marginal" places—is true, in fact, of many places that are not marginal. In its consciousness, ours is an upland society; the ruin of watersheds, and what that involves and means, is little considered. And so the land is heavily taxed to subsidize an "affluence" that consists, in reality, of health and goods stolen from the unborn.

Living at the lower end of the Kentucky River watershed is what is now known as "an educational experience"—and not an easy one. A lot of information comes with it that is severely damaging to the reputation of our people and our time. From where I live and work, I never have to look far to see that the earth does indeed pass away. But however that is taught, and however bitterly learned, it is something that should be known, and there is a certain good strength in knowing it. To spend one's life farming a piece of the earth so passing is, as many would say, a hard lot. But it is, in an ancient sense, the human lot. What saves it is to love the farming.

Wendell Berry and a team of Belgians—Annie and Judy—break ground on Uncle Jimmy's bottomland.

By Ann Wood

Born-again British railroads run on volunteers' steam

A brigade of nostalgic train buffs operates a host of short lines carrying sightseers through scenic cream of English countryside

Diane Glover whistles to signal driver to start their minitrain (opposite) in Lake District.

Rosemary Cubitt looked so normal, the picture of a "typical" young Englishwoman with her peaches-and-cream complexion and gentle manner. In her demure print dress she seemed properly attired to pour tea for elderly aunts in a velvet parlor. Only her short cap of brown hair belonged to this age.

She sat on a high metal stool behind the grille of a railroad booking office, selling tickets, answering questions, and in the few quiet moments between the sounds of excited children and the clanging telephone bell, chatting with her customers. She gave no clue that behind her cool English calm was a feminine Casey Jones. She was, in fact, biding her time until she could once again climb into the cab of a mighty diesel locomotive and start it rolling down the tracks from Grosmont to Pickering.

The fabled Casey Jones roared through the night to a smashup. Mrs. Cubitt would limit her speed to a more stately pace, suitable for sight-seeing along the 18 miles between two Yorkshire villages. Getting there is only half the thrill for hundreds of railroad buffs in Britain, who have proved that they can make old trains go for fun while saving part of their nation's heritage for future generations. So Mrs. Cubitt, who gave her free time for two years on the North Yorkshire Moors Railway as a guard to earn her chance as a driver (British for engineer), cheerfully sold tickets until her turn in the cab would come again.

Few women aim for the cab on an engine, because most lines require a year or so as fireman on a steam locomotive first, and that means shoveling coal. Mrs. Cubitt qualified as a driver on diesels, which do not use firemen. "I don't know any woman who wants to shovel coal," she said.

To understand what makes hundreds of people of all ages, many backgrounds and both sexes work free to see out-of-date trains go back and forth on short stretches of track is to appreciate British true grit and history. Forty years ago in World War II they would not give up their country. Now they are holding on to an important piece of it, preserving bits of old railroads all over England and Wales with free labor.

Americans who have tinkered with Lionel train sets or mourned the passing of favorite passenger trains know the lure of the same nostalgia. However, proportionately more of the British have graduated from playing with toys to operating real railroads, both narrow and standard gauge. Some paid staff is used, but volunteer labor makes it economically possible. There are incredible numbers of people willing to clean cars, shovel coal, lay track and do kitchen police

Packed with passengers, Ravenglass & Eskdale train steams its narrow-gauge way under a bridge.

Ann Wood is a former White House reporter for the New York Daily News. *Now free-lancing and living in London, she is writing a travel book.*

Photographs by Adam Woolfitt

North Yorkshire Moors Railway carries 250,000 riders a season through winding Newtondale valley.

A locomotive undergoes maintenance work in the NYMR volunteer-assisted "loco shed" at Grosmont.

duties in snack shops—all the dirty, but necessary, behind-the-scenes jobs—for no money. The benefits include long days, greasy hands and the knowledge that they are keeping something unique in motion.

British children used to start their lives as railroad buffs by "spotting"—keeping a record of the names and numbers of engines and trains that they had seen. After a drastic cut in local service by British Rail in the mid-1960s, there were fewer trains. Now fathers, who grew up seeing monster trains roar by, take their children to private railroads where trains are renovated and run. The old appeal is still there, and often "spotters" return to work regularly on one of the lines they discover, bringing the whole family.

Diane Glover (p. 85) started that way when she was 16. Her brother was a volunteer on the Ravenglass & Eskdale Railway, and she tagged along and was put to work polishing brass. She has been going back for nine years, and in the meantime met and married another volunteer. They give at least one or two weekends a month to the railway all year.

She works as a guard on this narrow-gauge line that runs through spectacular scenery. She checks couplings between the cars, takes tickets and signals the driver when to go. The cars are small and many are open (p. 84), and people sometimes become overly exhilarated riding in what seem to be oversized toys. She watches out for their safety. Her badge of authority is a whistle hanging on a cord around her neck. "We don't want anyone to do something foolish and get hurt. Sometimes people want to just pop out to walk the dog when the train stops along the line," Mrs. Glover said.

Avoiding cattle grid, sheep pick their way across double-track section of North Yorkshire Moors line.

Promotion within the train crew is earned and varies with the railroad. Would-be drivers on the Bluebell Railway must start at the bottom, brewing tea. The line has so many volunteers that the advancement ladder is worthy of an army organization chart.

However, all the workers are generally happy at their jobs. Customers get service with a smile. Should you want to discuss the innards of an engine, there will be someone to talk with, and the experience often has changed a spectator into a participant. Basically, there's a choice between dirty jobs and clean ones. The dirty ones are under the trains, in the machine shop and along the line. The clean ones are in the office and gift shop.

There is so much interest in locomotives that one railroad even found people willing to pay to work on them. The North Norfolk Railway last year launched a plan permitting vacationers to crawl under locomotives, empty hot ashes and do other equally filthy jobs —and charged them some $340 for a week. Twenty-four men paid for this remarkable holiday.

The first preservation society took over a line in 1951. It was a narrow-gauge industrial line in Wales, and it was saved from closure by conversion to carrying passengers as a tourist attraction. The idea spread, particularly after the mid-1960s. In Wales lines that would have been abandoned when mines closed down have been reborn as entertainment attractions and are an important addition to the economy.

All around Britain there were quaint stations standing silent and tracks stretching empty into the distance. A sad sight. The government said that British Rail couldn't afford to run trains from Buckfastleigh to Totnes, from Horsted Keynes to Sheffield Park, from Sheringham to Weymouth, or from Bridgnorth to Bewdley, but who could? The answer was for the railroad buffs to get organized and run them.

And they did. A recent list of all old railroads and preservation projects included 100 operating lines or preservation schemes and 41 museums. Some of these lines are now listed in the annual British Rail Passenger Timetable. They are only the most visible sign of the British fascination with railroads.

The railroad building boom of the 1800s broke the centuries-old isolation of English village life, bringing in cheaper coal and taking farm products to the London market for better prices. Everyone became more mobile. Many areas wanted railroads and often raised funds to get one built.

Many of these branch lines died, but some have been reborn. They are out of the transportation business and into nostalgia trips. The Keighley & Worth Valley Railroad trains rock along carrying tourists on the kind of ride for which Americans go to Disney World, but at the Haworth stop the parsonage where Charlotte Brontë lived is real. Passengers can detrain to see

Wearing the key that unlocks signals along one-track sections, Rosemary Cubitt phones the next station.

On carefully preserved, standard-gauge Bluebell line, a young volunteer inspects a locomotive.

Boiler in a Bluebell loco does double duty, warming tea-filled "Billy cans" on shelf over firebox door.

Volunteer greases switch points. His Bluebell line has a vast collection of vintage rolling stock.

where she and her remarkable family lived and wrote.

Private British railroads have no express trains, air conditioning or computers to break down. If you want to ride a particular train on the Festiniog Railway from Porthmadog to Tan-y-Grisiau during August and find it full, the agent will scribble a later time on your ticket and suggest some local sights to look at for an hour or so in the rugged Welsh coastal town.

Some people even buy their own locomotives, and many of these, owned by individuals or groups, are restored and lent out. Some go on display in museums, but others are put into service on one of the small railroads. The *Greene King,* owned by the Essex Locomotive Society, is an example of the trials of owning such an unusual vehicle. It broke down at the head of a special train one day, blocking the British Rail main line between Ipswich and Colchester, and was towed in disgrace to Peterborough for repairs. It was then lent to the nearby Nene Valley Railway for one year. The owners then moved it to the North Yorkshire Moors Railway, which has 18 miles of track. They yearn to return it to the main line at the head of future special trains.

A Battle of Britain loco for £3.50?

The steam-versus-diesel debate tilts toward the diesels when lines go shopping for additional equipment. A diesel in working order can be bought for the price of a still-to-be-restored steam locomotive. At the Woodham Brothers scrap yard in Wales, a popular shopping mart for those in the market for old trains, the Bluebell Railway's buyers found the *Sir Archibald Sinclair,* which they could buy if each of the 2,000 members of the preservation society donated seven dollars. They appealed for funds with this weighty question: "Who wants a Battle of Britain class locomotive for £3.50?"

Preservation societies that operate railways are not purists about using only steam locomotives or original equipment on the tracks. They are scavengers and proud of the wildly assorted collections of equipment they get into service. The Nene Valley Railway found steam locomotives at bargain prices in Europe and went international. It now has French, Danish, German, Swedish, Norwegian, Belgian and Italian equipment, and has rebuilt the station platforms to accommodate this variety of car widths. Trains with uniformly painted cars are rented out for movie sets. Rustic railroads are seen in English movies and television commercials, and Americans saw a station on the Bluebell Railway in the television movie, *Ike.* It was cast as a Belgian depot.

One small railroad is near perfect, a delight to purists and children of all ages. The Romney, Hythe & Dymchurch Railway is, like the Ravenglass, a model

train set come to life, opened 53 years ago and built one-quarter standard size. The ever-expanding main station at New Romney has so many platforms on this small scale that it looks like Waterloo Station seen through the wrong end of a telescope. The line was built by J.E.P. Howey, who inherited a piece of downtown Melbourne. He spent the rest of his life expanding and perfecting his 14-mile railroad.

It was taken over by the government during the war and used to transport soldiers and equipment when a German invasion was expected near Dymchurch. German pilots aiming for the main line tracks farther inland frequently bombed it, failing to realize that its tracks were only 15 inches apart.

Many private railroads have dreams of expansion, a mile or more put back in service. In some areas abandoned track is just beyond a barrier at the end of the existing line, tempting preservationists to further feats. These railroads are tiny next to British Rail, but big tourist attractions for some remote areas. The Bluebell Railway near London carried nearly 300,000 passengers last year. The North Norfolk Railway on the isolated East Anglia coast expects to top 100,000 passengers this summer. On most lines the peak season is from June to September, with lighter service during the spring and fall.

An energy-conscious American could visit rural Britain and see this remarkable preservation movement firsthand. Go by train, bus or bike to Welshpool. That's beyond Shrewsbury. On a sunny morning go to the west edge of town and look for an old railroad right-of-way. It's a bit overgrown, and the tracks have been put in the grass off to the side of rotted ties, but you'll see it leaving town beside the main road. Walk along through the countryside toward Sylfaen, where the Welshpool & Llanfair Railway trains from Llanfair Caereinion now terminate.

On the way you may meet a group of men—a bank clerk, lawyer, accountant or others—who may seem an odd bunch to be happily digging up old ties, putting down new ones and replacing the tracks on them. The British are not reserved when talking about railroads, and you can soon find out how to join the fun of running a real one yourself.

Working his way up the job ladder, a Bluebell volunteer tidies platform at Sheffield Park, one of two stations on the road. Behind wall of early enameled signs is a museum of railroad relics.

The Official of the World's

A unique collection of finely crafted miniature tankards, bearing the official emblems of the world's most celebrated breweries.

This limited edition collection is available by subscription only.

The advance subscription deadline is August 31, 1980.

Finely crafted miniature tankards have a fascination all their own. And they have been admired and collected for centuries throughout the world.

Especially prized by collectors are those tankards officially issued by leading breweries—richly embellished with the proud emblems that have come to signify preeminence in the brewmaster's art.

Franklin Porcelain has had the privilege of creating, for the world's great brewing houses, a number of privately issued miniature tankards. These individual tankards are produced as presentation pieces expressly for the use of the issuing brewery. As such, each reflects a standard of quality and intricacy of design not often found in miniatures of this kind.

Only a very small number of these handsome earthenware tankards are ever produced for any one brewery. And—given the private nature of their issue—they are extremely difficult to come by.

But now, Franklin Porcelain—with the permission of the individual brewing houses—has assembled a collection of these unique miniature tankards from the world's great breweries. And we are able to offer *the complete collection*—exclusively by direct subscription—on a limited basis.

Collector's tankards from around the world

The collection will consist of 35 tankards from as many leading breweries. In every case, the overall shape of the tankard will be an original design created exclusively for this important issue. And each tankard will bear the official emblem that symbolizes the brewery issuing it. For example:

The white bull elephant of Denmark's *Carlsberg* beer. The key and crest of Germany's *Beck's* lager. Montezuma, the Sun King, on Mexico's *Dos Equis* ale. The Irish harp of *Guinness* stout. The stately coat of arms for Spain's *Aguila* beer. The distinctive red triangle—the world's oldest registered trademark—on England's *Bass* ale. And other unique emblems from breweries in every quarter of the globe . . . *Sapporo* of Japan, *San Miguel* of the Philippines, *Leopard* of New Zealand, *Red Stripe* of Jamaica.

The complete collection of 35 brewery tankards—varying in shape, in color and in design—will be totally fascinating. A country-by-country tour of the world's great breweries. And, indeed, that would be the only way that an individual—who had both the time and the resources—could ever hope to assemble such a collection of specially crafted brewery tankards.

Totally authentic . . . finely crafted in every detail

The tankards will be meticulously crafted in traditional earthenware, under the supervision of Franklin Porcelain's affiliate in Japan—each to the exacting specifications of the issuing brewery. The colors and emblems appearing on

display in your home:

Tankards Great Breweries

Brewery tankards above shown smaller than 3½" actual size.

each tankard will be vivid and true—carefully authenticated by the officials of that brewery. The decorative borders and handle flourishes will be individually applied by hand. Even the capacity of each tankard has been established to approximate the size of a brewmaster's tasting mug—a purpose to which these tankards are particularly suited.

Each tankard, moreover, will be accompanied by a specially written commentary providing the history and background of the brewery. These commentaries will contribute very significantly to the enjoyment of the collection. For they will also include information on the art of brewing. Quotations by the famous—and near-famous—in praise of a particular brew. And stories of fact and fancy associated with the brewing houses represented in the collection.

Complete with display rack

A solid hardwood display rack has been specially designed to accommodate all 35 brewery tankards. Its handsome proportions and richly grained finish are in the spirit of the collection itself: bold, substantial and masculine. And each subscriber will receive the display rack as part of the collection.

As a subscriber, you will receive your collection at the rate of one tankard per month—and payment will be on the same, convenient monthly basis.

Issued in strictly limited edition

The Official Tankards of the World's Great Breweries will be issued in just one edition . . . only by direct subscription . . . and only for a limited period of time. There is a further limit of just one collection per person.

To subscribe, please mail the attached subscription application by the advance deadline of August 31, 1980. Under agreement with the issuing breweries, the collection will be withdrawn at the end of 1980, and the edition will be permanently and irrevocably closed.

Remember that your application must be sent directly to Franklin Porcelain, Franklin Center, Pennsylvania 19091—and should be postmarked no later than August 31st.

Each subscriber will receive a solid hardwood wall rack, specially designed to hold all 35 miniature tankards for display and easy access.

By Robert Wernick

Whitney Museum is an enduring Vanderbilt legacy

Fifty years ago the rich and unconventional great-granddaughter of the Commodore created a home for American art and artists

When Gertrude Vanderbilt Whitney's great-grandmother Sophia said she saw no reason to leave the family home on Staten Island to move to the town house on Washington Place—which her husband, the Commodore, was building—he clapped her into a private insane asylum until she came to her senses. That was in 1847. Gertrude, born in another, bigger Vanderbilt town house farther uptown in 1875, grew up in a gentler, less patriarchal age. When she took a studio in Greenwich Village to hobnob with Bohemian artists and work at her own sculpting, her husband Harry shrugged it off and devoted himself all the more arduously to his serious interest in polo.

Gertrude at first met with amused tolerance from her friends. But the artists, instead of treating her as a rich dilettante, "were always kind and helpful and encouraging," as she later wrote. Her shy aristocratic aloofness concealed an explosive bundle of energy and aspiration. In her lifetime she never ceased to be one of the great ladies of her clan, a rock to which the family turned in times of trouble, a society hostess whose homes in New York, Westbury, Newport, Aiken, the Adirondacks, Paris, saw an unending round of teas and dances and parties and formal dinners. She also had time for a hard-won and successful professional career, receiving important commissions like the monument in Washington to those who went down with the *Titanic*, the monument in Huelva near the spot where Christopher Columbus set sail for the New World, the giant equestrian statue (the only one of her works that is still sought out by tourists) of Buffalo Bill in Cody, Wyoming. She had time, too, for passionate love affairs, with artists, with society friends, with the family doctor, all conducted with such discretion that the world had to wait for the publication of her biography 36 years after her death to learn of their existence. An indefatigable recorder of her dreams, hopes and experiences, she wrote one published and one unpublished novel, a couple of unproduced plays, dozens of short stories, thousands of letters and some 50 volumes of journal and diary, a million words or more in which she recorded almost everything she saw, felt, regretted or hoped for from the age of 15 to her last illness.

Other uncounted thousands of words were in documents which were destroyed because they might embarrass her friends. There were letters of recommendation and business letters and thank-you notes, and they recorded a ceaseless stream of discreet benefactions to artists. She bought a couple of paintings from this one to enable him to go abroad. When that one faced eviction, she paid the rent. She knew that the

Whitney Museum of American Art

Entrance hall of original Whitney Museum displayed bronze cast of Mrs. Whitney's Arlington fountain.

Gertrude Vanderbilt Whitney was 41, and married for 20 years, when she posed for this elegant portrait, the work of American artist Robert Henri. It was painted in 1916 and Mrs. Whitney chose the costume.

two things artists need most are cash and recognition. The cash part was easy for a great-granddaughter of Commodore Vanderbilt. She wanted to help all the young and talented and ambitious artists she saw around her find some kind of public outlet for their work. She spent the energy of an ordinary person's lifetime doing just that in one corner of her own. Her most lasting monument is the institution which bears her name, the Whitney Museum of American Art in New York, which this year is celebrating its 50th anniversary as promoter and caretaker of painting and sculpture created in the United States.

American artists in Mrs. Whitney's day considered themselves, with some reason, to be orphans and outcasts. Those who could afford it expatriated themselves to Paris or London. The hungry young artists at home were repelled by the academic style of the great names of the times, many of which have since fallen into oblivion. The few dealers who handled modern art would only take a chance with work that had won recognition in Europe. There were at the time next to no collectors on the lookout for promising new American talent.

The first signs of what eventually became the steady achievement of modern American art are usually related to the show put on at the Macbeth Gallery in New York in 1908 by a band of painters who called themselves The Eight. They represented a variety of styles, they were united only by their youth and their opposition to the pallid conformity of academic art. What struck the public most was the rough-and-ready realism of some of their views of city life, which eventually led to their being called, quite inaccurately, the Ashcan school.

Gertrude Whitney was one of the first to respond to the adventurous élan of The Eight; in fact she bought four of the seven paintings that made up the total sales at the show. The elder statesman of the group, Robert

Robert Wernick, an American writer living part-time in Paris, has written frequently for SMITHSONIAN. *His article on "one-eyed jacks" appeared in January.*

World Discoverer Cruising Expeditions

For travelers with inquisitive minds who have been to all the usual places in all the usual ways.

☐ **ANTARCTICA** Penguin Colonies, Whales, Research Stations, Straits of Magellan, Falkland Islands.

☐ **AMAZON RIVER** In-depth Expedition of the "Mightiest Of Rivers"

☐ **NEW GUINEA & MELANESIA** Stone Age Ceremonies, Rituals of New Hebrides, New Guinea's Sepik River.

☐ **NEW GUINEA & INDONESIA** Sepik River, West Irian (Asmat). Native customs of the Secret Islands East of Bali.

☐ **SINGAPORE TO SEYCHELLES** Sumatra, Burma, Andaman Islands, Sri Lanka, Maldive and Seychelles.

☐ **SEYCHELLES & RED SEA** Seychelles Wildlife and the Archeology of Sudan, Egypt and Petra.

☐ **ICELAND & GREENLAND** Polar Bears, Walrus, Exceptional Birdlife, Spitzbergen, Fjords, Faröe, Scottish Isles.

☐ **NORTH & WEST AFRICA** Morocco, Mauritania, Cape Verde, Canaries, Senegal to the Amazon Delta.

☐ **I WOULD LIKE TO KNOW MORE**
. . . about Society Expeditions' unusual travel programs to the remote corners of the world,
. . . about the M/S World Discoverer — its comforts and exploration technology,
. . . about the naturalists, anthropologists and historians that accompany each expedition.

Society Expeditions Cruises Inc.

Dept. SM-8
723 Broadway East,
Seattle, WA 98102

Name

Street

City/State/Zip M/S World Discoverer Registered in Singapore

MORE... in my 1980 Christmas catalog!

MORE for your money—direct-to-you imports, European exclusives, and our own superb American-made designs.

MORE personalized gifts for everyone, every age—prices for every budget.

MORE holiday decor, collectibles, jewelry, gourmet treats, fun and games!

MORE time and energy saved when you shop at home by mail—and everything unconditionally guaranteed.

it's free!

MORE than 100 pages, 500 color photos, the most value-packed catalog in all our 29 years! Also free, a unique gift for you with each $10 purchased!

LILLIAN VERNON® Dept. T86
Box LV, 510 S. Fulton Ave., Mt. Vernon, NY 10551

Name

Address Apt.

City

State Zip

Subject of Mrs. Whitney's monument in Cody, Wyoming, was poles apart from her own life. She imported a cowboy and a horse from the West, as models.

Henri, later did a remarkable portrait of her (pp. 92-93), bold enough to be outrageous in 1916. Harry Payne Whitney would not let it be hung in their Fifth Avenue home. He could not condone a lady wearing pants for her portrait. And so she hung it in her studio. Gertrude's style was clearly her own: her bobbed hair and rouged cheeks were a decade ahead of their time. Henri was captivated by her sinuous art-nouveau pose, the mixture of assurance and fragility in her bearing, and he succeeded in showing her as dignified, provocative and artful all at once.

Besides The Eight, there was another group pressing for change, this one gathered around the gallery of the photographer Alfred Stieglitz. Stieglitz had a good eye—he discovered artists like John Marin and Georgia O'Keeffe (whom he later married). He introduced Picasso and Matisse to America; he was also dictatorial, intolerant of whatever did not live up to his exacting standards. The atmosphere at his gallery was "discriminating and exclusive," says Lloyd Goodrich, the historian of American art who was later to become director of the Whitney Museum.

Gertrude Whitney's tastes were broader, more democratic. Though she leaned personally to the conservative, she was willing to support the radicals of the Stieglitz circle as well. She gave $1,000, ten percent of the initial budget, for the decorations at the Armory Show of 1913 in New York City, which introduced the new revolutionary European art to America with a historic bang. And when she collected, she collected almost everybody.

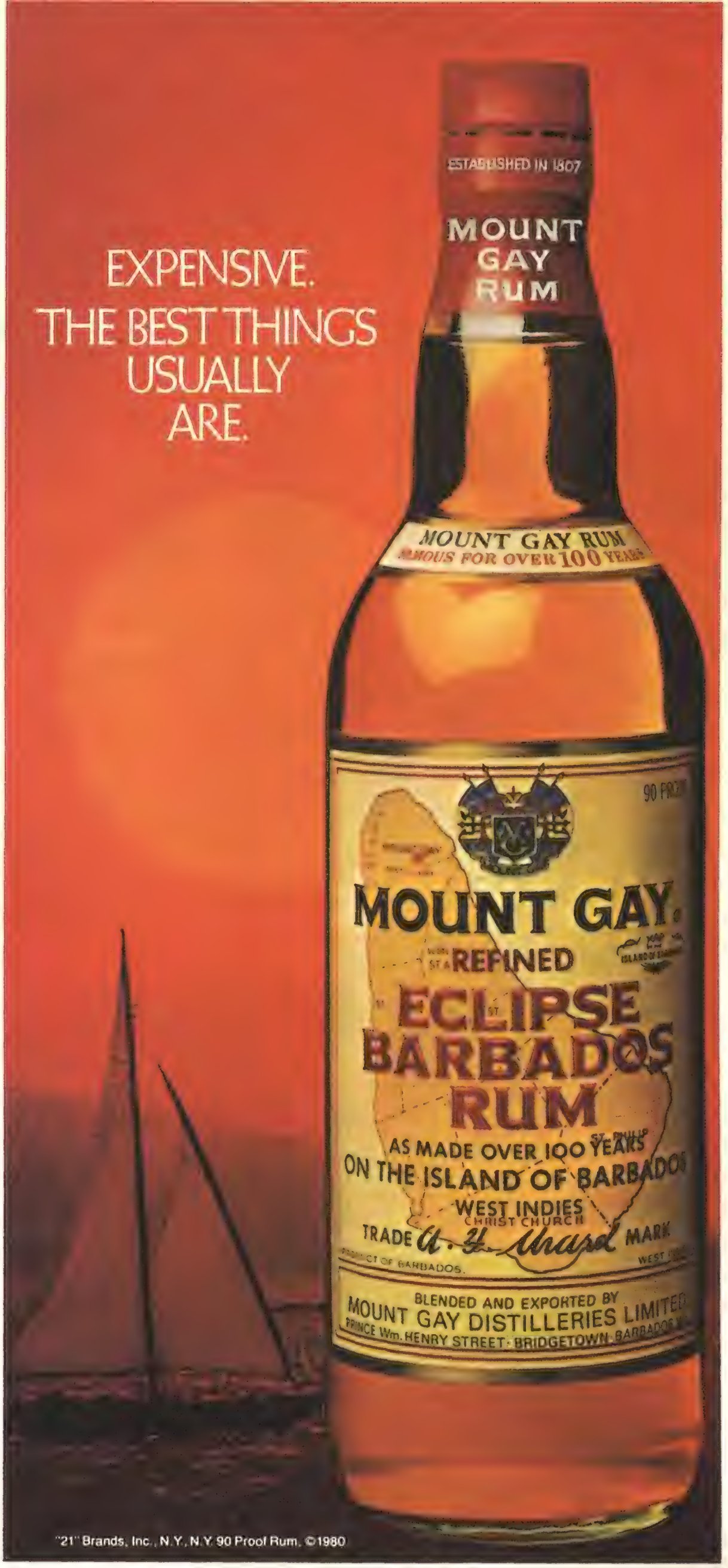
Just as important as collecting, she provided space in which artists both known and unknown could show their work and see that of others, could meet and talk and argue, dance, flirt, quarrel, eat and drink. The Whitney space was originally her own studio, then expanded through various Greenwich Village buildings.

There was a loose organizational setup, variously called the Whitney Studio, The Friends of the Young Artists, the Whitney Studio Club, the Whitney Studio Galleries, all pleasantly informal. For a whole generation of young painters in the 1920s, Mrs. Whitney's was the place to work, to play and to have your first show. Some of them are still alive today, in their 80s, and speak with fond nostalgia of those golden days.

By the end of the 1920s, Mrs. Whitney had acquired more than 600 works of art, too much to show in any building she owned. And she had seen the situation of artists change dramatically. Many galleries were now willing to take the risk of showing new American work. She thought it was time for her to share her collection with the world and she offered to give it to the Metropolitan Museum, along with the money to build a new wing to house it.

She herself had an aristocratic disdain for bargaining and the rough-and-tumble of the art business. But she had a remarkable assistant in Juliana Force, the wife of a New York dentist, who had come to her 18 years before as a secretary and was now her indispensable right hand. In short order Mrs. Force had learned a great deal about art, and she knew by instinct how to deal with the

Gertrude, at Greenwich Village studio, with models for Buffalo Bill.



ZUCCHINI COOKBOOK

Everything from zucchini marmalade to zucchini raisin pie, with over 250 recipes. Lots on canning, freezing and storing all kinds of winter and summer squash, too. Now, you'll actually **love** all that zucchini. Quality paperback. Only $3.95 (two for $6.95) plus 60¢ postage and handling. Send to: **Garden Way Publishing Co., Dept. A377, Charlotte, VT 05445.**

©1980 Garden Way, Inc.

New CASIO CALCULATOR WATCH $49.95

SHOWN ACTUAL SIZE!

TIME: hrs./mins./secs./am&pm/day
INTERNATIONAL TIME: 24 hr. clock
STOPWATCH: 1/100 sec.; lap & place
CALENDAR: day/date; auto E.O.M. adj.
CALCULATOR: 8 digit +/−/×/−;constants;powers

Incredible but true . . . this new CASIO Chronograph is a **watch** with 2 time zones . . . **a stopwatch** with normal/net/lap/1st & 2nd place timing . . . a **calculator** that adds, subtracts, multiplies and divides . . . and a **calendar** that displays day, date and month . . . all at your fingertips. Its lightweight 1¾ oz. handsome case and band are of high impact black plastic and there are no mechanical parts to wear out or break. Your satisfaction is guaranteed by us for 30 days and by Casio's warranty for 1 year. Battery included.

SATISFACTION GUARANTEED or your MONEY BACK.
We ship the same day we receive your order.
CREDIT CARD CUSTOMERS CALL TOLL FREE
7 DAYS A WEEK
800-343-6969 ask for ext. 147
In Mass. call collect 617-655-4600
We accept American Express, Master Card and VISA.
Please add $2 ea. to cover shipping, handling and insurance.
Or, if you prefer you can send a check or money order to:

ExecutiveMart
1470 HAMEL BLDG.,
169 PINE STREET, NATICK, MA 01760

aggressions and measureless duplicities of those who buy and sell it. She went to the Met with Mrs. Whitney's proposition. The director at that time was Dr. Edward Robinson, a man who had no use for contemporary art, American or otherwise. "My dear lady," said he, "what can we do with pictures like these? We already have a cellar full of them." In her quiet, determined way Mrs. Whitney decided that if the Met didn't want her pictures, she would build her own museum and Juliana Force would be its director.

The announcement was made in January 1930. It was to be the first museum anywhere devoted exclusively to American art, taken—in its largest sense—to include anything produced by Americans or by foreigners living on these shores. Its aim was to show the best, but also to support the living; as the initial press release engagingly put it, "to stimulate the creative spirit of the artist before it has been deadened by old age."

There were no administrators on the original staff. It was all run under Mrs. Force by artists, run in somewhat helter-skelter fashion but with enthusiasm and devotion. It did not look like any other museum of the time. Its facade was a warm pink stucco. Its galleries, fashioned out of three adjacent houses on West Eighth Street between Fifth and Sixth Avenues, were bright and gay, the wall colors changing from gallery to gallery,

Granite version, left, and plaster model of Whitney memorial to lost *Titanic*.

A DECORATING CLASSIC
that Pays for Itself

Save up to 25% on heating and cooling costs while enjoying the quiet efficiency of a Hunter ceiling fan, standard of excellence all over the world.
52" fan . . .$259; 36" fan . . . $189
Send 50¢ for color brochure
The Ceiling Fan Gallery
12 Indian Neck Lane, Peconic, N.Y. 11958

Smithsonians Nice'n Neat
Slip your **Smithsonian** issues into permanent files for ready reference. Blue leatherette face embossed in gold to look like fine books. Each file holds 12 issues. Also for **Natural History** (green), **Audubon** (green), **Scientific American** (red). Specify title & quantity. Postpaid.
$4.59 each; **$3.93** each, 3 or more.
Send check or Mastercharge or VISA number with signature, exp. date to:
Highsmith
BOX 25-SM/FT. ATKINSON, WI 53538
Catalog of files for Geographic and 200 other magazines free with order.

FAMILY CREST RINGS

14K Gold, **$390.00**
Sterling Silver, **$135.00**
WE WORK IN THREE BASIC WAYS—If you have a crest, send a copy of it, otherwise you may check it against our list, or you may design your own (see below). **SEND FOR OUR FREE COLOR CATALOGUE.** If, in addition to free catalogue, you want our booklet with over 20,000 names for which we have crests available plus instructions on how to design your own crest, **send us $1.00.**
HERALDICA IMPORTS, INC. D•SM
21 WEST 46th ST. • NEW YORK, N.Y. 10036

Preston's New 112 page Fully Illustrated Catalog of

Ship Models and Decorative Nautical Ideas for the Home.

You could shop for months and never find the hundreds of decorative nautical ideas illustrated in Preston's new catalog: 112 pages teeming with ship models, marine paintings, nautical lamps and clocks, ships' wheels, figureheads and scores of other nautical ideas for the Home.

Send 25¢ for catalog to:
PRESTON'S
67-W Main St. Wharf, Greenport, N. Y. 11944

Juliana Force, stylish and determined, a secretary who became the first Whitney Museum director, in her apartment above first museum building.

canary yellow to powder blue. Mrs. Force had an apartment upstairs, in which she changed the decoration every year, and to be invited to a party there following an opening was a mark of acceptance into the art world of New York.

The Museum opened to some bad reviews. "Provincial and secondary to a degree," said critic Paul Rosenfeld of the inaugural show, meaning that it gave insufficient space to the avant-garde artists of the Stieglitz group which he correctly regarded as the wave of the future. It has never identified itself with any wave or cause or ism. Its distinction has been precisely its democratic, unprejudiced, even indiscriminate tolerance for whatever seems alive and kicking, never mind what the critics say. Mrs. Whitney might have been appalled when her staff hung the works of a radical painter like Arshile Gorky before any other museum was ready to do so, but it was her staff and she backed it to the hilt on all occasions.

The museum was the personal property of Mrs. Whitney for its first few years. Even after it was incorporated in 1936, the board of trustees consisted of family and friends and it remained a family affair until 1961. It was early laid down as a principle that, unlike almost all other museums, this one would not have policies or acquisitions dictated by its trustees. Indeed, for 17 years it refused to accept gifts of works of art at all because Mrs. Whitney did not want to be put in the uncomfortable position of turning down works of lesser quality offered by well-intentioned family and friends. The trustees today include a broad spectrum of collectors, though the president is still a Whitney, Gertrude's granddaughter Flora Irving, and they follow the old rule of leaving the staff alone as much as possible. The internal history of the institution has been remarkably peaceful, lacking in the murky vendettas and conspiracy, the firing of directors, the sulfurous resignations, which have enlivened the history of so many sister museums.

In fact, the museum has never done anything spectacular or epochal. It has presented a broad view of the current scene in annual and biennial exhibitions and a flood of special, retrospective and group shows with such enthusiasm that no one has ever had a chance to see more than a small fraction of its permanent collection (with more than 950 living artists represented, by far the most complete view of modern American art in existence) at any one time.

QUESTARS ARE FOR LOVERS OF FINE INSTRUMENTS

Questar's inventor, who loved fine instruments, designed Questar for himself. First there was a set of optics so fine that no amount of money, time, or human effort could improve upon it. Second, believing that a telescope's use should not be a difficult physical chore, he made it easily portable and small enough to be used on a table, where an observer could sit in a relaxed position. Third, accessories were built in, with fingertip controls within easy reach. Fourth, the mechanical design permitted polar equatorial positioning in a moment and without the need of a separate tripod. Fifth, for versatility in the field of nature study he introduced the ability to focus as close as ten feet, which no other telescope in the world could do. Sixth, he made the design photovisual with the ability to record on film whatever these superior optics would present to the eye. And finally he achieved the rugged construction that eliminated the vibration and aggravating oscillations so familiar to those using long-tubed conventional telescopes.

Let us tell you more about Lawrence Braymer's remarkable invention based on an optical system by Maksutov, which was the first break-through in telescope design in 200 years. Send for our booklet in color, describing Questar, the world's finest, most versatile telescope. $2, please, for mailing costs.

© Questar Corporation 1979

QUESTAR

Box LFP
New Hope, Pa.
18938
(215) 862-5277

TEN CHEF'S TOOLS IN AN EARTHENWARE PITCHER! Five natural wood spoons from Italy, 7½-15½", for draining, mixing, folding, corner-reaching. Two giant 12" heavy stainless steel forks for turning roasts, with wood handles, leather hangthongs. Three Italian tinned whisks for fluffy omelets, smooth sauces, 8-12" long. Plus a brown-beige country-kitchen pitcher to hold them all, 6" tall, holds one quart.
9345 Complete Kitchenworks. 1 Set $6.98

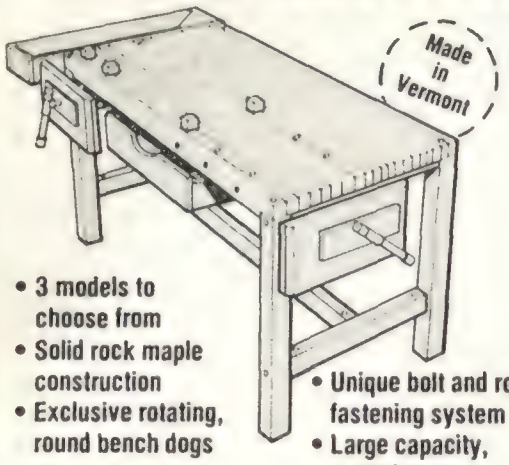
CG Country Gourmet
Dept. T82, 512 S. Fulton Ave.
Mount Vernon, NY 10550

Send me____ #9345 Chef Sets @ $6.98 each.
Add $1.25 shipping. **Total**
NY-CT res. add tax. **encl. $____**

Name____
Address____ Apt. ____
City____
State____ Zip____

At Last!

Quality Designed Workbenches at Affordable Prices



- 3 models to choose from
- Solid rock maple construction
- Exclusive rotating, round bench dogs
- Sturdy laminated "Butcher Block" tops
- Unique bolt and rod fastening system
- Large capacity, precision vises
- Full one-year warranty

If you've been looking for a high quality work bench that is reasonably priced, Garden Way has a bench to suit your workshop and budget. Save by ordering direct from the factory. Write today for free details or call...

Toll Free 800-451-5088, ext. 56

© 1980 Garden Way, Inc.

TO: Garden Way Research Dept. A458W
Charlotte, VT. 05445

☐ Yes! Please send me free information on all 3 Garden Way Workbenches!

NAME _____
(Please print)

ADDRESS _____

CITY _____

STATE _____ ZIP _____

FREE
COLOR BROCHURE

Do-it-yourself pre-cut kits • Completely finished and assembled models • Antique furniture reproducitons • Wall and shelf clocks • Grandfather clocks • Beautiful solid woods (walnut, oak or cherry) • Solid brass West German movements • Prompt delivery • Money back guarantee

VIKING CLOCKS

QUALITY CLOCKS AT FACTORY DIRECT PRICES.

VISA

FREE Color Brochure. Write: Viking Clocks, The Viking Building, Dept. 903, Foley, AL 36536. Phone: (205) 943-5081

Visit our showrooms: I-10 Exit 35, Spanish Fort, Ala. and Hwy. 59 one mile south of Foley, Alabama.

Present Whitney Museum of American Art, at 75th Street and Madison Avenue, New York, was designed by Marcel Breuer and Hamilton Smith.

It has grown larger, and necessarily more institutionalized, as its collections and its public have swelled. The original building down on Eighth Street was intimate and charming, but it was cramped and awkward for installing big shows, and in those more leisurely days it closed in summer because most of its staff, artists and clientele left the city. It was moved twice uptown, first to West 54th Street, back-to-back with the Museum of Modern Art, and then, 14 years ago, into a granite International-style blockhouse on Madison Avenue designed by Marcel Breuer. This imposing and imaginative building was judged by Lloyd Goodrich, who was director for ten years, to be the most functional museum in America, with a completely flexible inner space that can be adjusted to almost any kind of exhibition.

It is already cramped for space again, but there will be no money for expansion in the foreseeable future. Instead, it is trying to spread awareness of its treasures by sending them around the world through an ambitious program of traveling shows. In this anniversary year shows have gone, or will go, to 35 cities in the United States, Europe and Japan. And next year the new Philip Morris building across from Grand Central Station will open with a unique corporate grant: a pedestrian plaza encompassing most of the ground floor will be available to the Whitney for a permanent display of its massive sculpture, which at present can only be sparsely seen. And there will be a gallery for changing exhibitions, all at the corporation's expense.

A common complaint about the Whitney has been that nobody knows what it stands for. Until about five years ago it had followed what one of its associate curators, Patterson Sims, calls a machine-gun approach. Perhaps this only meant that it had been faithful to its founder's intentions. "The Whitney," says sculptor Theodore Roszak, "has sacrificed its own image in the support of the artist's cre-

ativity." And the artists have by and large reciprocated by a feeling of warm, almost familial devotion to the Whitney. But now the Whitney is becoming more specific, concentrating on special exhibitions of the works of those artists its curators consider the most influential, while continuing its tradition of biennial surveys of developments in contemporary art.

Edward Hopper and his wife dropped into the Museum one day. They were contemplating a bequest to the Whitney, they said, and thought they'd go round to a bank and get a standard Last Will and Testament form. It took some time to convince them that there would probably be a considerable estate and they had better see a lawyer. The lawyer kept his counsel, and only after Mrs. Hopper died was it learned that the artist had left all the unsold work in his Washington Square and Cape Cod studios to the Whitney. It turned out to be a treasure trove of some 2,000 paintings, drawings and etchings, which will furnish the core of the greatest Hopper show ever, to be held this fall as part of the anniversary celebration.

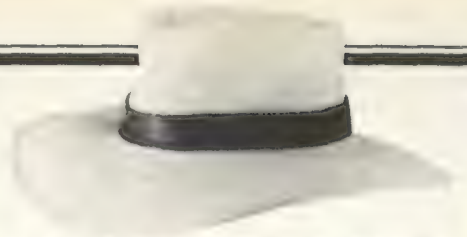
There are other shows going on all year long. Among them is a series called Concentrations. The series opened in January with Maurice Prendergast, who had been one of The Eight back in 1908, a dour misanthropic self-taught Bostonian who painted joyously lyrical pictures in which he tried to assimilate the new visions and new techniques of Cézanne. The Whitney began buying Prendergasts before it opened, and gave his first big New York retrospective ten years after his death, in 1934.

The series will close next May with everybody's favorite, Alexander Calder, whose whirling, twirling pads and pods have become a universal symbol of the enlivened human spirit.

In between comes a group of artists who had privileged connections with the museum for a variety of reasons. Mrs. Whitney gave John Sloan, who called himself a peeper because of his inexhaustible curiosity in the life outside his window, his first one-man show in 1916. For a decade she helped make up the deficits of the Society of Independent Artists, of which he was president. She met Stuart Davis, pioneer American abstractionist, and encouraged him when it counted; she bought two of his paintings to finance a year abroad.

Charles Sheeler, painter of cool simplified industrial and urban landscapes, was a good friend of Juliana Force, and on one occasion helped her put together a show. Charles Burchfield, a loner up in

Whitney exhibition in 1978 was devoted to contemporary artists who based their work on earlier art. The show was appropriately called *Art About Art*.



SHAPE IT LIKE YOU WANT IT

Our Plantation Hat is as individual as the person wearing it. Made of crisp cotton duck in an 18-oz. weight, it has a wired brim which can be shaped into any style you wish. Crease or contour the flat 4½" crown into your personal trademark. The 3½" brim shades your eyes and neck from sun; breathable fabric keeps your head cool. Accented with a latigo leather hatband. **Sizes:** S(6⅞-7), M(7⅛-7¼), L(7⅜-7½), XL(7⅝-7¾). **Color:** Cream. **Plantation Hat $16.95** ppd.

Order Today! Money Back Guarantee!

Enclosed is my check or money order for $_____
(Add sales tax where applicable.)

Please RUSH my **#1954 Plantation Hat.**

Size _____
Name _____
Address _____
City _____
State _____ Zip _____

☐ **Send me your FREE color catalog of quality outdoor apparel and equipment.**

Eddie Bauer®

Dept. WMN, Fifth & Union, Seattle, WA 98124

For Those With Impeccable Taste ...Halls Christmas Catalog FREE

Dedicated to those who have a flair for choosing just the right gift for everyone on their list — you'll find The Halls Christmas Catalog offers an unusual, exotic, and perfectly delightful selection of gift items. You'll find imports from Europe and the Orient, fashions and many items that are exclusively ours. The Halls Christmas Catalog is yours with our compliments.

Halls

DEPT. 0940, P.O. BOX 7400
N. KANSAS CITY, MO 64116

Please send my copy of your free Christmas Catalog to:

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

LYNCHBURG
HARDWARE & GENERAL STORE
44 Main St., Lynchburg, TN 37352

JACK DANIEL'S
FIELD TESTER CAP

This is a comfortable sportsman's billed cap. Black mesh (air cooled) and adjustable to any size head, with an official "Jack Daniel's Field Tester" patch on the front. Guaranteed to shade your eyes and start a lot of conversations. My $5.25 price includes postage and handling.

Send check, money order, or use American Express, Visa or Master Charge, including all numbers and signature.

(Tennessee residents add 6% sales tax.) For a color catalog full of old Tennessee items and Jack Daniel's memorabilia, send $1.00 to above address.

Send for our Catalog for Cooks

Browse at your leisure in our beautifully photographed catalogues. They are full of tempting cooking and serving equipment, practical items for the household and all liberally laced with recipes from Chuck Williams. To subscribe, send $1.00. We'll send you our big Christmas issue and follow it with 4 more in 1981.

P.O. Box 476, Dept. 8552
San Francisco, CA 94101
WILLIAMS-SONOMA
San Francisco • Beverly Hills • Palo Alto • Costa Mesa
Dallas • Minneapolis • Washington D.C.

Buffalo, found in a sympathetic staff at the Whitney his best chance of communicating to the outside world his vision of growing things and the backwaters of American landscape.

Ad Reinhardt is represented because the Whitney showed him regularly during his life, and his widow has given it a major collection of his work. Reinhardt was the most uncompromising of abstractionists. Polemicist as well as painter, he regarded Pollock and de Kooning as "fence-marking mud-pie" offshoots of the Ashcan school, and he pushed his contempt for the bourgeois vices of sentimentality and common sense to the logical extreme of painting canvases in variations of black.

Reinhardt had a more consciously humorous side; he was a lovely and sardonic cartoonist for the newspaper *PM*. One of his most famous cartoons showed an oafish viewer in front of an abstract painting snickering "Ha Ha, what does this represent?" In the next panel the painting sticks a bony finger into his loutish face and says, "What do you represent?"

Gertrude Whitney would probably have had no use for the black paintings, but she would have enjoyed the cartoon. She knew perfectly well what she represented. She said of herself once, "My ways are deep and I cover my tracks with discretion, but none the less when I want something it often happens . . ." She wanted her fellow artists to get their work before the public, and as long as her museum lasts it will happen.

Right after World War I Mrs. Whitney spent most of her working time sculpting war themes. Here, in her studio, she works on piece called *On the Top*.

For Smithsonian Associates Only

A Very Special Invitation

To enjoy one of the most remarkable musical happenings of our time

in company with

Johann Sebastian Bach (and a group of distinguished musicians)

A Smithsonian Treasury of

Johann Sebastian Bach

In advance of general release — An unprecedented 9-record library of Bach masterworks, performed on priceless original instruments of the Baroque Era, at the Smithsonian Institution, Washington, D.C. and the Aston Magna Festival, Great Barrington, Mass.

Six Partitas for Solo Harpsichord – *Performed by James Weaver.* Harpsichordist James Weaver, one of America's most notable performers of Baroque music and Associate Curator of the Smithsonian's Division of Musical Instruments, here matches his superb skills with the Dulcken Harpsichord, built in Antwerp in 1745. The result is a whole new vision of Bach.

Six Sonatas for Violin & Harpsichord, Two Sonatas for Violin, Harpsichord & Viola da Gamba – *Performed by Sonya Monosoff (violin), James Weaver (harpsichord), and Judith Davidoff (viola da gamba).* Originally recorded in 1969, these brilliant performances of Bach Sonatas set a new high standard for interpretations of Bach's music — and even won *Stereo Review*'s coveted "Record of the Year" award! Now in a magnificant new presentation.

Extra Value!

Your Bach Treasury will be delivered in a handsome, imprinted slipcase. If purchased separately, this outer slipcase is $3.98, but yours will be included free.

Johann Sebastian Bach
THE SIX BRANDENBURG CONCERTI
Johann Sebastian Bach
SIX SONATAS FOR VIOLIN AND HARPSICHORD
TWO SONATAS FOR VIOLIN AND BASSO CONTINUO
Johann Sebastian Bach
SIX PARTITAS FOR SOLO HARPSICHORD

The Six Brandenburg Concertos – *Performed by the Orchestra of the Aston Magna Festival, Albert Fuller, Artistic Director.* In these six great performances, the members of the Aston Magna orchestra have brilliantly recreated the music as Bach wrote it. The orchestra employs 28 Baroque instruments, many on loan from famous collections, including the Smithsonian's.

Included in each of the three individually boxed albums is an informative and fascinating booklet, full of interesting facts about the music, the performers, and the priceless Baroque instruments themselves.

Plus, with the album of Partitas, you receive the complete score of the music, just as Bach wrote it – the very first reprinting of this score in its entirety since Bach himself prepared it for the engraver in 1732!

A Smithsonian Treasury of Johann Sebastian Bach is now available at a special Associates-Only price of just $44.95 (plus $2.49 postage and handling) for the complete 9-record Treasury – a saving of $12.50 off the regular price.

THE SMITHSONIAN COLLECTION

Smithsonian Associate Order Form

☐ Yes, please send me my collector's library, A Smithsonian Treasury of Johann Sebastian Bach at the special Associates-Only price of just $44.95 (plus $2.49 postage and handling).

Name _____

Address _____

City _____ State _____ Zip _____

☐ Bill me

☐ Please bill me in five convenient monthly installments of $8.99 each (plus postage and handling)

☐ I prefer to enclose payment (payable to Smithsonian Institution)

Please allow four to six weeks for delivery.

Mail to: **Smithsonian Recordings**
P.O. Box 10230
Des Moines, Iowa 50336

L36

Martha Ann Quilt Rack. Copy of a New England antique. Pine & hardwood. KD. 30"H23½"W15½"D.

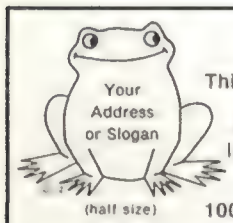
Order Today!
☐ EASY KIT: $28.00 & $3.00 postage
☐ FINISHED (dk. Pine): $38.00 & $3.00 postage
☐ SEND ME YOUR FREE 84 PAGE COLOR CATALOG OF QUALITY PINE FURNITURE & ACCESSORIES.

Backed by our 90 day guarantee.

Name _____
Address _____
City _____
State _____ Zip _____

SHOP BY PHONE:
Call Toll-Free 800-258-0375
MC • VISA • AMEX

Yield House®
Dept. S08A • Box 1000
N. Conway, New Hampshire 03860



(half size)

FROG Stickers
This Happy Green Frog, printed with your name and address or slogan, adds a little fun to letters, books, luggage, toys, promotions....
Frog Shape...Self-Stick
100 for $6.50 or 200 for $9.20 ppd.
FROGS, Box 735-E, Acton, Mass. 01720

The BUSHMAN by AKUBRA®
The Bushman is the outdoorsman's hat from Australia—the true bush hat. Made in Akubra's finest Imperial Quality pure fur felt, fully lined, 3¼ inch brim. Shown with the unusual ridge-braid leather band. Color Nullarbor Tan.
Bushman, Ribbon Band 45.00
For ridge-braid band add 12.50
Please add $1.50 for shipping
State size 6¾ through 7⅞
Check, Mastercharge or Visa
Send for our unique catalog Satisfaction Guaranteed
Visit our Seattle store at 1523 N.W. Ballard Way
David Morgan
Box 70190, Seattle, WA 98107
(206) 282-3300

Book reviews

Portrait of an Artist
A Biography of Georgia O'Keeffe
Laurie Lisle
(Seaview Books, $14.95)

That a young journalist, not a "distinguished critic," has published the first comprehensive biography of Georgia O'Keeffe is a surprise and a happy one. *Portrait of an Artist* is a superb piece of work in every respect. Not only does it document the full scope to date of this remarkable 20th-century life, but it does so directly, simply and objectively.

At 92, Georgia O'Keeffe is a kind of high priestess of American art, dressed in flowing, robelike gowns and living near a remote New Mexico mesa amid the red rocks, bleached bones and Southwestern flora that are the subjects of her most famous paintings. Fiercely independent and intensely reticent, she turns away most biographical inquiries, as she did Laurie Lisle's. "You are welcome to what you find" was all she told Lisle.

In the past few years she has managed to be slightly less secluded, having produced a highly successful book of paintings and commentary, starred in a prize-winning TV documentary and permitted an extraordinary exhibit of Alfred Stieglitz' intimate photographs of her at the Metropolitan Museum in New York. But she is still a living legend, and although living legends make compelling subjects they tend to be served by myths that are tempting to indulge.

To Lisle's great credit, she has stuck with the facts that could be confirmed in the voluminous records she explored, and when she comes upon an event or quotation that is suspect she says so. One example: Stieglitz, upon first seeing O'Keeffe's early drawings, is popularly believed to have exclaimed, "At last, a woman on paper!" If he said it, it was probably not to the only witness at the decisive event.

Stieglitz was the central influence in O'Keeffe's life and career. The relationship between the reserved young painter from the Midwest and the flamboyant, gregarious, combative man, a generation older than she, who became her mentor, her lover and her husband, is the stuff of great romance and easily the most fascinating element of her biography. Stieglitz was often domineering, but he never dominated this powerfully individualistic artist gifted with original vision. Their life together was a passionate one, both stormy and tender. He was her discoverer and champion; "she was the calm center of his life." Over the years he photographed her 500 times. When exhibited in 1921, some of these photographs were compared to the Song of Solomon.

One can only wonder what course O'Keeffe's life might have taken had they never met. She was born and raised on a farm in southern Wisconsin, a somewhat unfavored child of a large family, although showing early talent in artistic endeavors. She lived for a time in north Texas, where she taught art in the public schools and first encountered the western vastness that has been the essential ingredient of her subject matter. She trav-

Stieglitz and O'Keeffe—a passionate relationship, both stormy and tender.

eled to New Mexico in 1917, and "from then on I was always on my way back."

The inspiration for *Portrait* was the 1970 O'Keeffe retrospective at the Whitney Museum of American Art. Stunned by the fact that no book on America's preeminent woman painter existed, Lisle began an exhaustive inquiry that took her to 24 states. For three years she researched in museums and libraries, visited the places O'Keeffe lived and worked, and interviewed scores of O'Keeffe's friends, associates and surviving family. The list of sources, the bibliography and the index take up 39 pages. Clearly, journalist Lisle has scooped the art world with an impressive literary debut.

—James Idema
Washington writer and editor

A Dream of Islands
Gavan Daws
(W. W. Norton, $14.95)

What did these men have in common: John Williams, English missionary; Herman Melville, American novelist; Walter Murray Gibson, American schemer; Robert Louis Stevenson, Scottish writer; and Paul Gauguin, French painter? This: during the 19th century each of them traveled to South Sea islands on what Gavan Daws calls "a journey into the self." Some stayed in the South Seas for the rest of their days, and only Melville never returned. All found their Pacific sojourn to be the most intense period of their lives.

A Dream of Islands is composed of an introductory section and five longish chapters, one devoted to each of the protagonists. The book gets off to an unnerving start with the story of John Williams, an evangelical preacher who tried to instill industry and self-control into the languid and sensual Polynesians. Williams was far better at raising funds in London than at effecting lasting changes in the islanders' habits, but his death was useful to his cause. After the news reached home that he had been clubbed to death in the New Hebrides, his example prompted scores of men to seek the conversion of souls in far-flung places.

Herman Melville's view of the South Sea Islanders differed markedly from Williams'. To Melville's mind, "if the savage needed saving it was not from himself but from civilized man." *Typee* and *Omoo,* the early novels that stemmed from his voyages as a seaman to the Mar-

At Christmastime, let the Museum Shop come to you.

The Metropolitan Museum Catalogue—on every page, an object to delight your eye and fire your imagination. From every corner of the earth, superb gifts, faithfully reproduced from the originals in the Museum's own collection. In gold, silver, pewter, brass, silk, glass, iron, porcelain. Prices from under $5 to over $1000. Available only by mail from the catalogue, or at the Museum Shop. Send for your catalogue now.

IDHO

THE METROPOLITAN MUSEUM OF ART

Please send me the new 116-page Christmas Catalogue* plus the special Christmas issues of Books & Prints and Presents for Children. Enclosed is $1.00 to cover mailing costs.

Name_____

Address_____

City_____ State_____ Zip_____

255 Gracie Station, New York 10028

*Your Christmas catalogue will be mailed September 1st.

An Alternative To The $23 Button Down Ours...$15.50

Finest traditional design and tailoring. Seven button front, placket sleeve, left breast pocket, double reinforced side seams and sleeves.
Your satisfaction guaranteed.
Blue or White. Sizes 14½-17½ / 32-35.

Huntington Clothiers
2258 E. MAIN ST. • COLUMBUS, OHIO 43209
Order Toll Free: 800-848-6203 In Ohio 614-237-5695

Please send me 100% cotton shirt(s) @ $15.50 ea.
Add $2.00 for ship. & ins. regardless of quantity.
Ohio Res. add 4% sales tax.

Size ____/____ ____ Qty White ____ Qty Blue

☐ Pers. Ck. ☐ Mstr. Chg. ☐ Visa ☐ Am. Exp.

Card No. _____

Exp. Date_____ Mstr. Chg. Bank No. _____

Signature _____

Name _____

Address _____

City _____

State _____ Zip _____ SSJ

Another Jewel from the Jotul Collection

For more information on the complete collection of Jotul woodstoves, look for your nearest Jotul dealer in the yellow pages, or send $1 for the Art of Heating with Wood. Also available: a free brochure describing Jotul UL-listed woodburners.
from:

KRISTIA ASSOCIATES
P.O. Box 1118, Dept. SM8
343 Forest Ave., Portland ME 04104
dealer and distributor inquiries invited

DIAL YOUR VACATION.

A great vacation in Maryland is right at your fingertips. Our toll-free number gets the information you need. We'll send you our tourist kit that includes: accommodation guide, our calendar of events, a campground guide, maps, history, restaurants. Just call Maryland Tourism, and we'll send it. Come see My Maryland.

MARYLAND

800-638-5252
(Inside Maryland call toll-free 800-492-7126)

quesas Islands and Tahiti, portray a dream life of food for the plucking and sex for the asking, albeit with a sobering dose of tribal warfare and cannibalism. But it was the Pacific itself, rather than its islands, that haunted Melville and inspired his masterpiece, *Moby-Dick*.

Gauguin and Stevenson both died rather young in the islands. Gauguin's residence in Tahiti so affected his art that his tropical paintings overshadow his earlier European work. Stevenson, who settled in Samoa, planned to write a book about the South Seas, but the exigencies of surviving forced him to crank out travel letters.

Walter Murray Gibson was a man with an oversized ego, an imposing presence and no substantive talent. Though the Mormons later disowned him, as their missionary he amassed extensive holdings in Hawaii and wormed his way into the royal government. One day his bubble burst. He was drummed out of the king's cabinet and banished.

Daws' concept for this, his fourth book about the Pacific, was so felicitous that he could have written it indifferently and still compelled attention. But in fact he has brought his idea splendidly to life. The 1800s were rife with exotic travel and exploration, and one can hardly have too many literate accounts of these adventures. May Gavan Daws go on roving through that heady century.

—Dennis Drabelle
Washington critic

The Nature of Women; An Encyclopedia and Guide to the Literature
Mary Anne Warren
(Edgepress, $20)

This book stands in the tradition of the great French *Encyclopédie*. Like that monument to the Enlightenment, it is a weapon of war as well as a compendium of knowledge. If the enemies of Denis Diderot and his collaborators were ignorance and superstition, Mary Anne Warren's enemies are the patriarchal society and those whom she regards as its apologists. Warren has produced a tool of scholarship with a partisan cutting edge.

It's hard to see how such a book published at such a time on such a field as women's studies could be otherwise than partisan. For the war between the sexes is far from seeing any cease-fire; in women's studies the struggle has been an

artillery duel conducted in barrages of wounding words.

From the entire sweep of Western history Warren has selected for summary the views of nearly 200 writers—from Aristotle, arch-defender of the male-dominated nuclear family, to Edward O. Wilson, the controversial sociobiologist, with whose work she deals carefully and fairly. With the writings of others, however, she is far less patient. Under the entry "Antifeminism," she refers to Norman Mailer as "in a class by himself," and later to his work as having "a boundless capacity to anger feminists. . . ."

A boundless capacity to anger antifeminists has been the fate of such women as Valerie Solanas, founder of SCUM (Society for Cutting Up Men) and most radical of the radical feminists of the 1960s. Warren sees the split between radicals and liberals as the main cleavage continuing within the women's movement today. Liberals are inclined to work to rectify inequalities and injustices within the existing society; the Equal Rights Amendment is an example.

Radical feminists blame the oppression of women on such deep-seated institutions as the patriarchal family and the capitalist economic system. Only when these are swept away, they believe, will women truly be liberated.

The most useful section of the encyclopedia may be its annotated listing of the enormous volume of anthologies and source books in women's studies that have appeared in recent years. Warren's advice will ease the bewilderment of students wondering where in this treacherous sea of literature they can safely take a plunge.

Warren thinks she has pitched her encyclopedia at the level of a reasonably well-read high school student, but a good many of the entries suggest that such a student would need to be very well-read indeed to keep from getting lost. By Warren's own design this book is meant to be browsed in as well as systematically exploited.

Still, no browser should pick up *The Nature of Women* in the expectation of being entertained. Like many of her colleagues, Warren fails to see that women's studies deals with subjects far too serious not to be amusing; her tone is grave and ponderous.

—John Talbott
Professor of History,
University of California, Santa Barbara

GWTW: The Screenplay
Sidney Howard, edited by Richard Harwell
(Collier, $17.95)

Great wars make great literature; in America, they make great movies. *The Birth of a Nation, What Price Glory?, Casablanca* and *Gone with the Wind* convey the spirit of our particular brand of romantic chauvinism and feigned innocence as well as any epic.

No combination of fiction and film, however, has equaled *GWTW*. Perceived by the book's fans as a reckless misalliance, the film emerged as neither stepchild nor bastard from the unholy union of David O. Selznick, producer, and Margaret Mitchell, novelist. It became an overnight classic, and the story of its creation is a saga in itself.

Margaret Mitchell never believed her novel would make a good movie. In 1939 she wrote ". . . I knew how that book was written. It had taken me ten years to weave it as tight as a silk pocket handkerchief. If one thread were broken or pulled an ugly ravel would show clear through. . . . Yet they would have to cut for a script, and when they began cutting they would discover they had technical problems they never dreamed about. . . . And may God have mercy on their souls."

The original screenplay writer was Sidney Howard. A playwright who had adapted Sinclair Lewis' novels *Arrowsmith* and *Dodsworth* to the screen, Howard believed that "Works of art are best left in the form their creators selected for them." Selznick, who desperately wanted to make a great movie from a good book, disagreed, and the first of 17 scriptwriters left the set. The others, including F. Scott Fitzgerald, Ben Hecht, Oliver Garrett and Charles MacArthur, massaged the basic Howard script to please Selznick. Susan Myrick, working on the film as a technical adviser on the South, wrote to her friend, Margaret Mitchell: "Producers and what they do with scripts is like a chef making soup. . . . He tastes, adds seasonings, tastes again, adds again. Perfect. Then he does more things to it until he has the finest soup in the universe. Whereupon, he calls in the other chefs and they all stand around and pee in it!"

GWTW: The Screenplay is the first time the appended script, an amalgamation of four different versions, has been

NEVER BEFORE — has pure gold been added to the high relief of the aristocrat of all United States coins — The Morgan Silver dollar. These are beautiful rare coins *not* newly created medals.

Almost 100 years old, these coins are now amazing the numismatic world with startling advances. Add to this — a miraculous new patented process, by Jimmy Chin, that etches 24 Karat Gold onto the coin — *with extreme precision.*

Spectacular and different—the necklace at $159 is reversible and comes complete with a handsome 14 Karat Gold filled 24" chain (27" endless for men). Our money clip has a beautiful Rhodium finish that will give long, hard wear. They are just $89 — the set is $248.

With each piece you will receive a numbered Certificate of Authenticity. Full refund if not delighted.

CARTWHEELS, INC.
2500 Grubb Road
Wilmington, DE 19810

Order TOLL FREE
800-441-7666

Send: . . . . Necklaces, ... Money Clips, . . . Sets
Check Enclosed $. . . . . Charge DC, AE, MC, VISA $
Card #
Exp Date Telephone #
Name
Address
City . . . . . State . . . . . Zip

Classic Grace, Total Efficiency.

We designed the Defiant and its smaller brother, the Vigilant, to embody the simple grace and functional efficiency seen in much of the Early American architecture surrounding us here in Vermont. We build them to continue that tradition, proving that an efficient woodstove can be a pleasing piece of furniture rather than an ugly alternative to the high price of oil.

Our stoves are the first airtight, all cast iron and thermostatically controlled woodstoves made in America. Both are fully baffled, with pre-heater air passages and secondary combustion chambers to maximize heat output.

Both stoves will hold a fire up to 14 hours. Both offer smokeless loading of large-size logs. With the doors open or off, you can warm your feet at a friendly fire.

Find out more about the lifetime investment in fuel-saving warmth the Defiant and the Vigilant offer you.

☐ Please send your 16-page Operation Manual and color literature. I enclose $1 to cover first class postage and handling. I heat my home by:

☐ Oil ☐ Gas ☐ Electricity ☐ Wood

Name_____

Address_____

City_____ State_____ Zip_____

Vermont Castings, Inc.
2457 Prince Street, Randolph, Vermont 05060
Telephone: (802) 728-3111

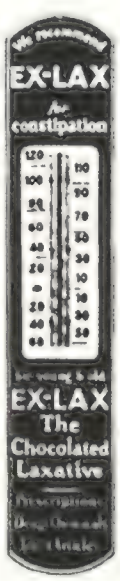
AUTHENTIC AMERICANA

39" TOBACCO BARN THERMOMETER

39" DRUG STORE THERMOMETER

Each a new, authentic reproduction, 39" x 8", decorative, functional in-door/out-door wall hanging. Sturdy metal in blue enamel with yellow, red, and white trim. Ideal gift. Satisfaction Guaranteed.

EACH $18.95
Plus $2 postage and handling



22" TAVERN THERMOMETER
Sturdy metal indoor/ outdoor 4-color enameled design
$14.95
Plus $2 postage and handling

Check, Visa or Mastercharge. State Card No. and expiration date.

VISA

The Great Americana Store
Dept AC, PO Box 98
Great Neck, New York 11021

published. Lovingly edited by Richard Harwell, who has written extensively on the Civil War and edited Margaret Mitchell's letters, it includes a few scenes dropped from the final version and several that Howard did not write.

For those of us never surfeited with the lore and lure of *GWTW*, this 414-page, wonderfully illustrated book is too short. The descriptive passages are as evocative and poignant as their visual counterparts, and the dialogue rings as clear and true as it did in 1939.

Combining all the careful details of the book with the visual scope of historical drama, the screenplay of *GWTW* succeeded where other novel dramatizations have failed. Reading this book confirms what we knew all along—the movie made *GWTW* into America's own myth.

MGM, © 1939, 1967. UGa Libraries, Marsh Papers

Scarlett and Rhett—America's own myth

All the elements are there: larger-than-life characters playing out their destinies with a sublime recklessness that briefly cheats the forces around them.

Happy love has no history. The assassination of passion, not the satisfaction of love, is the stuff of stories, and Scarlett does her heritage of heroines proud. Her desperate denial of instincts in favor of the "shadow show" of the Old South and Ashley Wilkes qualifies her as one of the most splendid spitters in the face of fate and fact in the Western World.

But it is her survivability that makes her quintessentially American. No arsenic for Scarlett. Her ferocious determination to beat the odds, to fly in the face of adversity holds the movie together and makes her a major figure in American mythology.

—Jill Merrill
Washington critic

Laying Waste: The Poisoning of America by Toxic Chemicals
Michael H. Brown
(Pantheon, $11.95)

On April 22, the tenth anniversary of Earth Day, the citizens of a 15-square-mile area around Elizabeth, New Jersey, were given a graphic example of how far this nation has come in cleaning up the environment. At 11 that night, explosions rocked a warehouse crammed with 24,000 illegally stored barrels of highly toxic chemical wastes and hurled a fiery mushroom cloud 200 feet in the air.

A thick cloud of smoke and ash hovered above the area even after firefighters had worked for ten hours to get the conflagration under control. Authorities advised residents to stay indoors with all doors and windows closed. Tentative plans to evacuate the area were canceled when the wind shifted and carried the toxic cloud out to sea. "We were within a hairsbreadth of disaster," according to John Surmay, director of Health, Welfare and Housing in Elizabeth, quoted in the *New York Times*, April 23, 1980.

The explosion and fire at the inaptly named Chemical Control Corporation warehouse is one major manifestation of a greater national problem: how to prevent the large number of toxic chemicals manufactured and distributed in this country from endangering the health of the American people and poisoning the environment. If cleaning up the nation's air and water was the top environmental priority in the Seventies, then the policing of chemical wastes surely will be Number One in the Eighties.

Michael Brown's *Laying Waste* provides an overview of the entire toxic waste problem. As a reporter for the *Niagara* (New York) *Gazette*, Brown wrote more than 100 stories about the nation's most publicized toxic contamination incident—Love Canal, an old chemical dump site in a residential area of Niagara Falls. Relying heavily on that background, Brown gives an in-depth analysis of the Love Canal incident in which more than 200 families were forced to leave their homes when dozens of toxic chemicals bubbled up in their backyards

and began to seep into their basements.

Brown uses Love Canal as a starting point. The bulk of *Laying Waste* reports on other incidents of toxic waste contamination from Maryland to California. As he traveled around the country, Brown found depressingly similar incidents in which careless disposal of hazardous wastes caused severe problems. What Brown uncovered strongly suggests that episodes like Love Canal and the Elizabeth warehouse fire are but the tip of a toxic chemical iceberg.

Today's toxic contamination threat is a direct result of the immense growth of the chemical industry following World War II. The Environmental Protection Agency (EPA) estimates that there are some 70,000 chemicals manufactured or processed commercially in this country today, with about 1,000 new chemical compounds introduced each year. From this, each year, about 35 million tons of flammable, explosive, corrosive and toxic wastes are produced. EPA says as much as 90 percent of these wastes is disposed of unsafely.

Brown is at his best in *Laying Waste* outlining individual cases of toxic waste contamination. He interviewed scores of victims of improperly disposed chemicals and also talked to many industry and government officials. The results of Brown's investigation provide a sound basis for his harsh criticism of the chemical industry and the government. Brown blames the industry for knowingly disposing of dangerous chemicals and the federal government for doing little to stop these practices.

There are two omissions of consequence. Brown makes no reference to the Toxic Substances Control Act of 1976. That law does not deal with waste disposal, but it does give EPA the power to stop commercial production of potentially dangerous chemicals before they go on the market. In addition, a book of this scope should include a bibliography or other listing of sources.

These omissions do not mar the book's overall effectiveness. *Laying Waste* is well researched, thorough and very readable. It may not be the *Silent Spring* of the Eighties, but it does call our attention to an extremely dangerous environmental problem that seems destined to get worse in the coming decade.

—Marc Leepson
Staff writer, *Editorial Research Reports*

When it comes to classic clothes, dress by the book.™

Over 350,000 women do. That's because The Talbots catalog is the easiest way ever to buy superb classic clothes. Just call our Person-to-Person Shopping. We can answer any questions about any catalog item, help you pick the right size, coordinate outfits for you, give you all the personalized service The Talbots stores have been famous for since 1947.

For a free subscription to our catalog filled with soft dresses, smart sportswear and more, call our Person-to-Person Shopping at (617) 749-7830. Or write The Talbots, Dept. OS, Hingham, Massachusetts 02043.

Name_____

Street_____

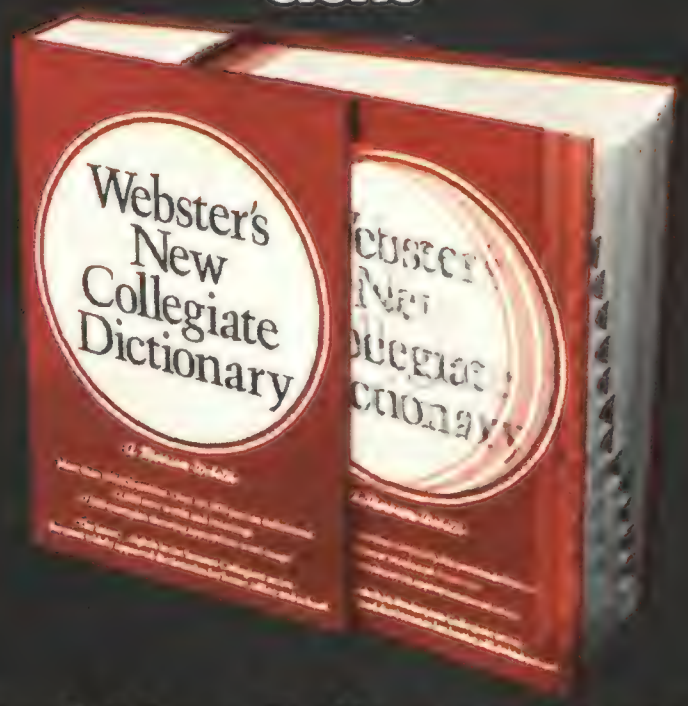
City _____

State_____ Zip_____

The Talbots

Stores in Massachusetts, Connecticut, New York and Pennsylvania

clone



Webster's New Collegiate Dictionary. It's where the words live.

America's best-selling dictionary doesn't just define words. It brings them alive. Over 150,000 of them, old and new. Full of quotations, usage examples and illustrations, it gives you a new kinship with "clone," lets you cut through the mystery of "laser." It's a whole new meaning for "dictionary." Just $11.95. A great gift. Merriam-Webster Dictionaries, Springfield, MA 01101.

FROM MERRIAM-WEBSTER®

© G.&C. MERRIAM 1978

Ladies Knit SLACKS

3 pairs for only 19.95

Tailored to Fit, in **Petite, Average, or Tall**

Here are the best looking, best fitting, all-purpose knit slacks you have ever loved! Delivered straight to your own door to see and try on at home, AT NO RISK, at a price to make you purr!

These are no ordinary slacks! They feature all new Figure-Line proportion tailoring, ultra-comfortable, generous fit, and a neater, more flattering appearance!

- Gentle elastic S-T-R-E-T-C-H waist moves when you do, never binds!
- Built-in INDELIBLE CREASE is STITCHED IN for the life of the slacks!
- 100% Permanent Press NO IRON Wash and Wear!
- 100% Polyester NON-SNAG DoubleKnit. No snags, no bags, no picky-pilling!

You save money on this amazing low purchase price, and you save again and again on the long wear and easy care:

NO CLEANING BILLS! — NO PRESSING BILLS! 4 for 26.50

Ladies Knit SLACKS 3 for 19.95

HABAND for Her
265 N. 9th St., Paterson, NJ 07530

Yes! Please send me the _____pairs of Ladies Knit Slacks, for which I enclose full remittance of $_____, plus $1.25 for postage and handling.

Or Charge It To: ☐ VISA ☐ Master Charge

Acct#_____

Exp. Date ____/____/____

Misses Sizes: 8-10-12-14-16-18-20

Women's Sizes: 34-36-38-40-42 (Women's Sizes add $1 per pair)

Petite (5'0"-5'3") **Averg.** (5'3"-5'7") **Tall** (5'7"-5'10")

GUARANTEE: I understand that if on receipt I do not wish to wear the slacks, I may return them within 30 days for a full refund of every penny I paid you.

COLORS		Qty	Size	Length
BROWN	A			
GREEN	B			
NAVY	C			
BURGUNDY	D			
CAMEL	E			

797-A11

Name _____

Street _____ Apt # _____

City _____

State _____ Zip _____

Additional reading

Terns (p. 28)

The View from Great Gull by Michael Harwood, E. P. Dutton, 1976

"A Behavior Study of the Common Tern" by Ralph S. Palmer, *Proceedings of the Boston Society of Natural History,* July 1941

"The Early Warning of the Terns" by Helen Hays and Robert W. Risebrough, *Natural History,* November 1971

"Polyandry in the Spotted Sandpiper" by Helen Hays, *Living Bird,* 1972

"Probable Common X Roseate Tern Hybrids" by Helen Hays, *Auk,* April 1975

"Sir Tea" (p. 38)

Lipton's Autobiography, Duffield and Green, 1932

The Lipton Story: A Centennial Biography by Alec Waugh, Doubleday, 1950

The $30,000,000 Cup by Jerome E. Brooks, Simon & Schuster, 1958

The America's Cup Races by Herbert L. Stone, William H. Taylor and William W. Robinson, W. W. Norton, 1970

The History of the New York Yacht Club by John Parkinson jr. (2 vols.), New York Yacht Club, 1975

Cancer therapy (p. 48)

Getting Well Again by O. Carl Simonton, M.D., Stephanie Matthews-Simonton and James Creighton, J. P. Tarcher (Los Angeles), 1978

You Can Fight for Your Life by Lawrence LeShan, Jove/HBJ, 1977

"It's bad to be sick—but worse to be blamed for it" by Howard M. Spiro,

Send for our informative 120 page full-color "Price Guide & Catalogue of Collectors' Paperweights." 1979 bound edition. $5.
Antique/Contemporary
Paperweights
L. H. SELMAN, Ltd.
761 Chestnut St. Suite 14AA
Santa Cruz, California 95060

SMITHSONIAN INDEXES

Available for volumes 3, 4, 6, 7, 8 at $1 each. Volumes 1, 2 and 5 out of print. Please send requests to:

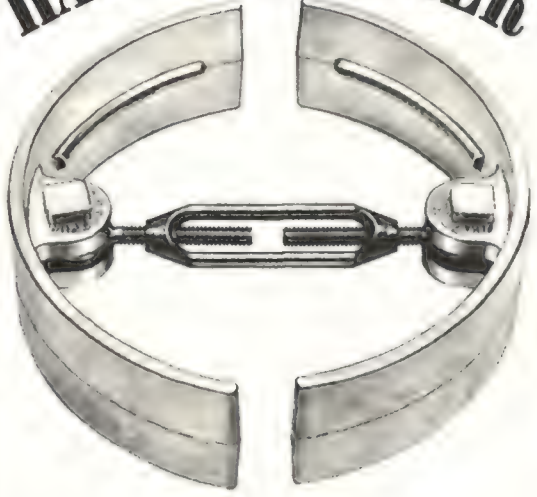
SMITHSONIAN MAGAZINE
900 Jefferson Drive
Washington, D.C. 20560

Please send for our free color brochure.

RUSSIAN LACQUER BOXES

LIGHT OPERA
GHIRARDELLI SQUARE #102-S
SAN FRANCISCO,
CALIFORNIA 94109

HAT STRETCHER



Lay up your winter hat for the summer, or your summer hat over the winter, and they SHRINK. And here is the easy way to get them back to your exact size. End pieces of die-cast bright aluminum with iron turnbuckle. Made to last with satisfaction guaranteed. Dealers or Reps wanted. Order Now. $14.50 Postage paid. ***Plus my state sales tax.***

B.R. Inv. Co. Inc., 4642 E. Floral Dr.
Los Angeles, Calif. 90022

Quantity _____ ☐ Ck. ☐ Money Ord. ☐ Visa ☐ M.C.

Card #_____

M.C. Intbk. #_____ Exp. date_____

Sig. X_____

Name_____

Address_____

City_____

State_____ Zip_____

M.D., *Medical World News*, January 7, 1980

"Early Warnings of Disaster" by Mary H. Cadwalader, *Smithsonian*, May 1974

Printmaking (p. 60)

Papermaking by Jules Heller, Watson-Guptill, 1978

Paper, Art and Technology (report of the International Paper Conference, 1978), The World Print Council (San Francisco), 1979

Innovative Printmaking by Thelma R. Newman, Crown, 1977

Toy soldier museum (p. 68)

Model Soldiers: an Illustrated History by John G. Garratt, New York Graphic Society (Greenwich, Connecticut), 1972

Model Soldiers: a Collector's Guide by John G. Garratt, Seeley Service (London), 1959

Collecting Model Soldiers by Henry E. D. Harris, Abelard-Schuman, 1971

Berry farm (p. 76)

A Part by Wendell Berry, North Point Press (Berkeley), 1980

The Unsettling of America: Culture & Agriculture by Wendell Berry, Sierra Club Books (San Francisco), 1977

"Farming with Horses" by Wendell Berry, *Organic Gardening and Farming*, March 1974

"A Composting Privy" by Wendell Berry, *Organic Gardening and Farming*, December 1973

British railways (p. 84)

Branch Line Album by P. B. Whitehouse, Ian Allan (London), 1962

All Aboard with E. M. Frimbo: World's Greatest Railroad Buff by Rogers Whitaker and Anthony Hiss, Grossman, 1974

"The Preservation Bubble" by John R. New, *Railway Magazine* (London), April 1979

Whitney Museum (p. 92)

Gertrude Vanderbilt Whitney by B. H. Friedman, Doubleday, 1978

Revolution and Tradition in Modern American Art by John I. H. Baur, Harvard University Press, 1966

Merchants and Masterpieces by Calvin Tomkins, E. P. Dutton, 1970

The Most Exciting Gift Catalog you have ever seen...

Yours FREE

Gifts of Perfect Taste! Delicious Cheese, Sausage, Meats, Fancy Pastries, Candy, Fruit and Nuts. Unusual Gifts offered only by The Swiss Colony.

- **Over 140 beautifully illustrated full color pages.**
- **630 unique gifts, many surprisingly low priced!**
- **254 gifts under $10.00—41 gifts under $5.00.**

SAVE up to 25% on over 100 different gifts with Early Order Discounts up to $5 each.

FREE $17.00 COUPONS. Save $17 with special "Get Acquainted" Discount Coupons with each catalog.

☐ **YES!** Please rush FREE Swiss Colony Gift Catalog and $17.00 in Discount Coupons.

Name _____
(Please Print)

Address _____

City _____

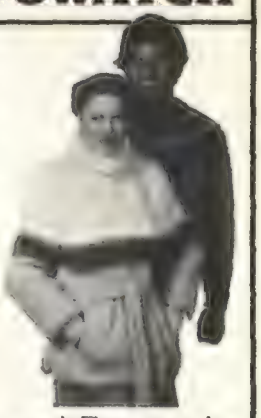
State _____ Zip _____

The Swiss Colony
Dept. WA

1112 7th Ave. P.O. Box 800 , Monroe, Wisc. 53566

FREE

ICELANDIC WOOL CATALOG & SWATCH



Landau offers the world's largest selection of men's, women's and children's Icelandic woolen products. Exquisite jackets, ponchos, coats, hand knit sweaters, mittens, scarves, hats and more. Experience the natural, undyed colors, durability, water repellency and incredible warmth without weight unique to Icelandic wool. Every catalog carries a wool swatch so you can examine firsthand what makes this superb wool an investment in luxury for years to come. Use the coupon or call **TOLL FREE 800-257-9445; N.J. Residents 800-792-8333...**

Call Toll Free Or Send For Your

FREE CATALOG

And Free Icelandic Wool Swatch.

LANDAU—Dept. SM-08
P.O. Box 671, 114 Nassau St.
Princeton, NJ 08540

Please rush my free full color Landau Icelandic wool catalog and free wool swatch.

Name _____

Address _____

City/State/Zip _____

Visit Shops in Princeton, NJ/Manchester, VT.

If you put $2,000 of your portfolio into rare coins in 1948, you'd be $140,575 richer today.

As inflation gets worse, investment grade U.S. coins get better. From 1970-1979, they appreciated 25% *per year*....then leaped an incredible 273% last year alone. So if your investments haven't kept pace, maybe we can help. Whether you want to invest $75 a month or $50,000 in a day, we'll show you what we think are the major trends and which undervalued coins we feel are most likely to appreciate. We'll also guarantee, in writing, the accuracy of our grading and the fairness of our prices. We can help you invest part of your Keogh/IRA in rare coins, as well.

Write Rare Coins, Dept. PP-19A, Littleton, New Hampshire 03561 for details on our investment programs.

Name _____ PP-19A

Address _____

City _____ State _____ Zip _____

Littleton Rare Coins

DON'T MISS YOUR TERN!

Our August 1980 cover is available as a full cover, 20½" x 33" poster (logo and type will not appear in the picture area). Send $3.00 to:

TERN POSTER
Smithsonian Magazine
P.O. Box 23624
Washington, D.C. 20024

STAIGER quartz accuracy in a tiny travel alarm!

Cordless, quiet, sturdy, the mightiest mini—space-age quartz crystal is precise to 1 minute a year, has unlimited life! Durable matte black plastic case just 2⅛x2⅛x1⅛", tucks into any bag—clever hinged cover folds under to become a stand. Luxury features—luminous hands, light-up face, buzz-alarm that repeats 30 minutes in case you snooze. Goes anywhere with no plug-in problem, no ticking to keep you awake. Our own West German import, a name quality-famed for 80 years. Boxed with 1-year guarantee and instructions—great for home or office, too. Takes AA battery (not incl.).
6142 Quartz Travel Alarm $27.50

Add $1.25 post. & hdlg. NY res. add taxes
MasterCard, Visa: send card #, exp. date.

LILLIAN VERNON®
Dept. T84, 510 S. Fulton, Mt. Vernon, NY 10550

Smithsonian highlights

World class disc players and disc-catching canines are among the attractions at the fourth annual Smithsonian Frisbee Disc Festival, noon to 5 P.M. on August 31 (rain date: September 1). Free workshops on the Mall, sponsored by the Air and Space Museum, will cover the flips and flops of the art. Bring discs and picnics.

Special August events

Air and Space Museum
Frisbee Disc Festival (August 31, noon-5 P.M.; rain date: September 1).
Paul E. Garber Preservation, Restoration and Storage Facility—New name of the Silver Hill Museum recognizes contributions of NASM's historian emeritus.
August is a Great Month for a (Meteor) Shower (August 2, 9 A.M.)—Monthly sky lecture, Albert Einstein Spacearium.

Arts and Industries Building
A Victorian Horticultural Extravaganza—New display of floriculture, pomology (fruits) and olericulture (vegetables).

Cooper-Hewitt Museum (New York)
Wallpaper (August 12-October 26).
Mustard Pots from the Colman Collection (August 26-October 19)—Silver works.
Beach, Boardwalk, Boulevard (August 16-October 19)—Atlantic City's heritage.

Renwick Gallery
An Interior Decorated: Joyce Kozloff (August 15-March 1)—New York artist creates striking space.
Painted Weavings by Lia Cook and Neda AlHilali (August 15-March 1)—Works utilize industrial materials.

National Portrait Gallery
Why Not a Woman for President? (August 22-January 4)—Portrays woman Presidential candidate Belva Ann Lockwood.
Unsuccessful Candidates for the Presidency, 1912-1976 (through November 9).

Distinctive portrait by Romaine Brooks, *Madame Errazuris,* 1908, is at NCFA.

National Collection of Fine Arts
Romaine Brooks, 1874-1970 (August 29-February)—Eighteen works (above, and SMITHSONIAN, March 1971).
Across the Nation: Fine Art for Federal Buildings, 1972-1979 (ends September 1).

Museum of History & Technology (MHT)
Fifty Years of Supermarkets—Small exhibit shows development of this American institution (p. 112).
Printing for the Blind (opens in August)—Features historical objects from the Perkins Institute for the Blind, Boston.
Puppets and Things on Strings (through September 8)—Some famous characters.

National Zoo
Zoodles (Tuesdays-Sundays, 10 A.M.-4 P.M.)—Summertime puppet shows.
Zoo Films (daily, 10:30 A.M.-4:30 P.M.)—Films on zoo life, conservation.

Radio Smithsonian

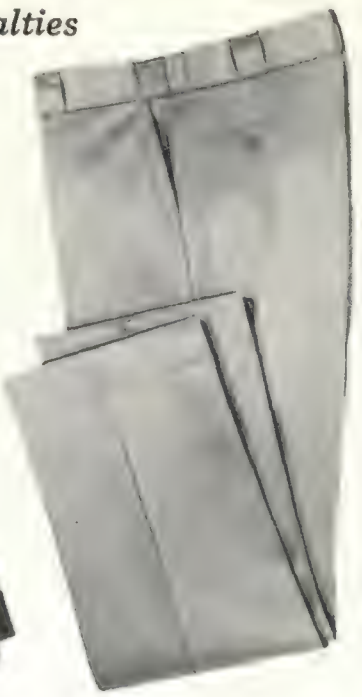
This music and conversation program is broadcast weekly on approximately 65 stations across the country. For details, consult your local fine arts radio station.
Victor Herbert (week of August 3).
The Mastery of Miró; Aviation's Early Years (week of August 10).
Belgium Today (week of August 17).
The Nation's Attic; Messages from the Voyager Mission (week of August 24).
The Splendors of Eastern Art at the Freer Gallery (week of August 31).

L.L.Bean®

Outdoor Sporting Specialties

Chino Pants
(For Men and Women)

You'll get more wearing pleasure from these pants than any others you own. Made of high-grade combed cotton/polyester twill. Permanent crease, washable, no ironing required. Neat looking for sports or work. Color, Tan. Even waist sizes only. Men's Unlined Chinos: Sizes 30 to 44. Ins. 29″, 31″, 33″. Women's Unlined Chinos: Sizes 8 to 20. $12.75 ppd.



Lined Chinos

Same sturdy construction but fully lined with our famous Tan Chamois Cloth. Sizes as above. Men's and Women's Lined Chinos, $21.25 ppd.

PleaseShip Postpaid

__1822W Men'sChinos @ $12.75
Waist Size_____ Inseam_____

__4416W Wm's Chinos @ $12.75, Size____

__1824W Men's Lined Chinos @ $21.25
Waist Size_____ Inseam_____

__4435W Wm'sLinedChinos @ $21.25, Size__

☐ Check Enclosed ☐ Master Charge
☐ VISA ☐ American Express
Card Number _____
Exp. Date _____
☐ **SEND FREE CATALOG**

Name_____
Address _____
City _____
State_____ Zip_____

L. L. Bean, Inc., 1042 Casco St., Freeport, ME 04033

The R.E.I. Co-op Nylon Wallet Is So Durable You Can Sit On It . . . So Lightweight That It Floats!

$6.75

R.E.I. Co-op's Nylon Wallet is made of rugged backpacking materials. Large compartment stows your money. Inserts keep credit cards and photos handy. Compact and pliable, it comfortably fits in your back pocket! So lightweight, it even floats. Comes in assorted colors. Order yours today.

Please send me:
☐ R.E.I. Nylon Wallet
Order C38-119. $6.75
Offer expires: 1/15/81.
☐ FREE R.E.I. Co-op Catalog.
Send coupon or call toll free:
1-800-426-4840. Alaska and Hawaii call 800-426-4770. Washington State call 1-800-562-4894.

Name _____
Address _____
City _____ State _____
Zip _____ 8SM8

REI CO-OP

Established 1938

Seattle • Portland • Berkeley
Los Angeles • Anchorage • Minneapolis
P.O. Box C-88127 Seattle, WA 98188

Smithsonian events

Special events in August are listed below. For tickets, call 202-357-3030.
An Evening with Ray Bradbury (August 1, 8 P.M., MNH).
A Fifties Film Fest (Mondays, August 4-September 15, 7:30 P.M., HM&SG).
Pablo Picasso (August 6, 8 P.M., MNH)—Lecture by scholar Marilyn McCully.
Miniatures—Why All the Fuss (and Fun)? (August 12, 8 P.M., HM&SG)—SMITHSONIAN editor Dana Little examines scene.
Life in the Polar Seas (August 18, 8 P.M., MNH)—Lecture by G. Carleton Ray.
A Caribbean Gala (August 20, 7:30 P.M., MNH)—Poetry, music, dance.

Membership benefits when visiting the Smithsonian

For current information on events and a special publication, come to the Associates Reception Desk in the castle, 10 A.M.-4 P.M. daily. Also in the castle, the Associates Lounge is open until 9 P.M.

For an orientation on the 13 Smithsonian museums, attend a 30-minute slide-talk in the Discovery Theater, Arts & Industries Building, at 10:30 A.M. daily.

For dining, enjoy lunch and dinner weekdays; breakfast, brunch and dinner, weekends, at the Associates Court, Museum of Natural History.

For previsit information, send postcard or phone Associates Reception Center, Smithsonian Institution, Washington, D.C. 20560 (202-357-2700 or, for hearing impaired, TTY 202-357-1729). Allow two weeks for receipt.

Smithsonian Institution Traveling Exhibition Service

SITES circulates exhibitions to hundreds of cities outside Washington, D.C. To sponsor a show in your community, write to Eileen Harakal, SITES, Smithsonian Institution, Washington, D.C. 20560. Here are some August exhibits:
Mason City, Iowa (August 9-September 7) *American Drawings II,* Charles H. MacNider Museum.
Williamsport, Pennsylvania (August 16-September 14)—*Buildings Reborn: New Uses, Old Places,* Old City Hall.
Newburyport, Massachusetts (August 9-September 12)—*Jack Tar: American Profiles of Merchant Seafarers, 1783-1804,* Newburyport Maritime Society, Inc.
Portland, Oregon (August 16-September 14)—*Black Women: Achievements Against the Odds,* Portland Urban League.
New Orleans (August 16-September 28)—*The Ratner Collection of Judaean Antiquities,* Newcomb College.

Supermarkets: how they grew

The supermarket is an American invention. So it comes as no surprise that a small but choice display, "Fifty Years of Supermarkets," goes on exhibit this month at the Museum of History and Technology. Says curator Terry Sharrer, "I can't think of anything that illustrates the industrialization of America more than the supermarket, at least from the consumer's point of view. It's the other end of the mechanized farm."

Supermarkets blossomed on the American scene in the early 1930s. "The automobile and the Depression made supermarkets successful," says Sharrer. "People wanted bargains." Aspects of the phenomenon had appeared earlier. In 1916, Memphis grocer Clarence Saunders featured self-service in his Piggly Wiggly store. But the later institutions of the 1930s combined the ingredients of the modern supermarket: self-service, cash and carry, parking, discount pricing, and several departments under one roof.

The idea mushroomed—although just which store qualifies as the *first* supermarket is still being argued in the aisles. Among the pioneers were Ralph's in Los Angeles, Weingarten's in Houston, and the Gerrard family of California whose markets established the alphabetical "Alpha Beta System" of self-service—anchovies next to ant paste on the shelves.

In New York, Michael J. Cullen started his King Kullen chain in 1930—his motto was "pile it high and sell it cheap." Big Bear, "the world's greatest price crusher," opened in New Jersey in 1932 and did $3.9 million in sales the first year. And on Saturdays in 1934, some 10,000 shoppers swarmed through Dawson's Trading Post near Chicago's Loop; in two years 19 people were injured and two died in parking lot traffic.

All of that shopping led inevitably to the shopping cart (below), first used in Oklahoma City in 1937 and patented in 1940 by chain-store owner Sylvan Goldman. Describing the cart, now in the Smithsonian collection, Goldman wrote:

"Women customers would come in . . . but very, very few would take one. Their comment was 'No, we have pushed enough baby buggies around' . . . and the men customers would say 'with my big arms I can carry my baskets.' " Hiring people to stroll around with carts "was the gimmick that did the trick."

The rest is recent history. Today some 33,000 stores represent a $150-billion business. Shoppers deliberate over the seemingly endless choice and supply of food—an abundance often taken for granted. "The country's food supply is so astonishingly effective that it sometimes arouses hostility," comments Sharrer. "Did you ever notice all the sizes of olives? If you want proof of choice, go look at the olives."

—CAROL SIMONS

The Depression and the automobile led to success of early supermarkets (below) which in turn led to the invention of the folding shopping cart in 1937 (right).

"green &
gracious"

Vibrant, cosmopolitan, international in flavour, Toronto plays host with first-class hotels, haute cuisine & haute couture, great little shops, galleries, theatres, cabarets – all that dazzles, plus the Science Centre, Cinesphere, C.N. Tower, our super zoo. And all of summer's simple pleasures – bicycle paths & boardwalks, island parks & playgrounds, are yours to discover in Toronto, Ontario/Canada.

Call us COLLECT (416) 965-4008 or write: Ontario Travel, Dept. G.G., Queen's Park, Toronto M7A 2E5.

ONTARIO
yours
to discover!

Join with other Smithsonian Associates

Travel and Study, at Home, Abroad . . . and

As a Smithsonian Associate, you can enjoy the benefit of culturally oriented experiences under the guidance of museum curators or visiting scholars. Your lively curiosity and broad interests have resulted in a comprehensive study program to meet many tastes and budgets.

Domestic Study Tours

These tours offer specialized guidance and expertise generally unavailable to persons traveling on their own:

Williamsburg Family Weekend—August 14-17: A repeat of our popular program for children 7-14 (and parents) to learn about 18th-century life through participation in Colonial activities.

Chicago—September 17-21: Discover the architectural treasures of this vibrant city with tours and lectures by Chicago Architecture Foundation staff.

Hawaii—September 30-October 9: Explore the Big Island's volcanoes, seashore, rain forests and desert with geologists and botanist.

California Wine—October 5-11: Learn to select, evaluate, and enjoy California's wines by visiting vineyards with distinguished winemasters.

New England Seaports—October 10-18: Trace the history of 19th-century American China trade in Boston, Newport, Providence, Salem, Kennebunkport.

Savannah/Charleston—October 13-20: Experience charm and gracious living of the past with visits to historic homes and plantations.

Smithsonian Sampler Weekend—October 24-26: Curators and staff conduct behind-the-scenes tours of specially selected museums.

The Florida Keys: A Tropical Wilderness—November 2-9: An active program offers snorkeling and field trips to explore Big Pine Key and colorful coral reefs.

Philadelphia—November 5-9: This historically rich city embodies origins of our nation; visit homes in Society Hill, Rittenhouse Square and Fairmont Park.

Sapelo Island—November 9-15: Camp on unblemished beaches while studying the marine ecology, Indian ruins and history of this Georgia Barrier Island.

National Air & Space Museum—November 14-16: In-depth exploration of this popular museum and its restoration, preservation and storage facilities.

Christmas at the Smithsonian—December 5-7: Ninth annual tree-trimming party and special tours of museums.

Virgin Islands Adventure—January 12-21 or January 21-30: Chartered sailboats provide base for exploring the Caribbean and its spectacular coral reef.

Coming in February: **Baja Whale Watch.**

Washington "Anytime" Weekend: Choose any weekend to visit your choice of Smithsonian museums, spend two nights at Loew's L'Enfant Plaza Hotel or Hyatt Regency Washington, each close to the Mall, and see other sights in the city by Tourmobile. Reservations and payments at least ten days prior to arrival.

Foreign Study Tours

These tours range in size from small group experiences to charter adventures and vary in price from low cost to deluxe, depending on the type of travel, destination visited and length of trip:

Oxford/Smithsonian Seminar—September 12-27: An exciting array of subjects is taught by Oxford University faculty. Field trips and special seminars utilize the rich resources of the town and countryside, the Ashmolean Museum and Bodleian Library. Live in Worcester College and enjoy the special ambience of this ancient school.

Spain*—September 14-28: Explore the fine museums and historic buildings of Madrid, the glorious cities of Toledo and Segovia, plus the varied beauty of the Andalusian countryside.

Adriatic Shores—September 20-October 6: From Athens, cruise both shores of the Adriatic Sea aboard the *Argonaut.* In Italy, visit Brindisi, Bari, Ravenna, Trieste and Venice. Explore walled cities of Dubrovnik and Split on Yugoslavia's Dalmatian coast, and the Greek Island of Corfu.

Paris & French Countryside*—September 21-October 5: Combines the best of old and modern Paris with museum lectures, walking tours and day excursions from the city followed by a choice of week-long travel to Alsace-Lorraine, Provence, or Normandy and Brittany.

The Land of Eire*—September 28-October 12: The treasures of history, architecture, folklore and awesome scenery are savored in this circle tour of the Irish Republic. Includes meetings with university and government leaders, special lectures and receptions.

Kyoto Seminar—October 17-November 2: A unique program to study Japanese culture and to live in Japanese style in this medieval capital. Japanese and U.S. scholars lead seminars and field trips.

India Wildlife Safari—November 16-December 9: Observe the magnificent animal life of the subcontinent. Travel to wildlife sanctuaries from Central India to Assam; also included is Nepal's famous Tiger Tops.

Antarctica—December 31, 1980-January 20, 1981: Prominent lecturers make this a rewarding expedition. Cruise aboard the *World Discoverer* from Punta Arenas, Chile, to the Falkland Islands, then down to Antarctica.

Winter Baroque—Vienna, Salzburg, Munich—January 4-18: Winter provides enchanting setting for walking tours of Baroque Vienna and Salzburg; visit museums of Vienna and Munich, and enjoy special music performances.

Mayan Mexico: The Yucatán Peninsula—January 8-20 or February 3-15: A complete tour of the extraordinary Mayan ruins of the Yucatán.

Guatemala—January 21-February 1 or February 18-March 1: In the company of an archaeologist, explore extensive Mayan ruins.

Kenya—February 5-22: Abundant and incomparable wildlife is observed in the old safari tradition. Seminars in Nairobi, and in the field—Masai Mara, Samburu, Kilaguni.

The Milford Track, New Zealand—February 13-28: Take a three-day hike from Lake Te Anau to Milford Sound for the "finest walk in the world"; also included, Mt. Cook National Park, Queenstown, Erewhon Park and Christchurch.

New Zealand—February 18-March 6: Tour includes Mt. Cook, Te Anau and Milford Sound, Auckland, Rotorua, Wellington, Christchurch; talks on natural history, Maori heritage, Parliament and a home visit.

* Indicates optional predeparture course.

Write National Associates, A&I 1278, Smithsonian Institution, Washington, D.C. 20560 for specific tour/seminar brochures or call (202)

in Washington

Selected Studies Seminars

Come and enjoy a popular new program at the Smithsonian which combines outstanding speakers with small specially arranged tours "behind-the-scenes." Choose from:

Tibet: Lost Horizons—Sept. 28-Oct. 3: A cultural history of a uniquely rich civilization. Includes tours of the Freer Gallery of Art and the best private collection of Tibetan art in the U.S.

China: A Cultural History—Oct. 5-10: Prehistory to the enigmas of today, with emphasis on the intellectual and artistic traditions and the great philosophies and religions. Includes recent films and tours of the Freer Gallery of Art.

Historic House Preservation—Oct. 19-24: Experts advise on how to work with architects, contractors and other professionals; explain mistakes to avoid and how to save money; and lead tours of lovely Georgetown, Old Town Alexandria, as well as famous country estates.

Aircraft Restoration: How To—Oct. 26-30: Internationally known craftsmen who have restored the famous masterpieces of aviation in the National Air and Space Museum offer workshops at Silver Hill on the many various techniques used.

Flemish and Dutch Painting in the 17th Century—Nov. 9-14: Princes and patriots with masterworks by Rembrandt, Hals, Vermeer, Rubens, Van Dyck and others. Lectures and tours of the National Gallery of Art with Bill Kloss.

World War II Aircraft—Nov. 16-21: Guest experts and the outstanding aeronautical staff of NASM offer new insights as they discuss how the major air forces of the world came into being and how quantum jumps in aviation production and performance were achieved. Includes tours of many of the only surviving World War II planes.

Genealogical Research—Nov. 16-21: Taught by the "dean of American genealogy," Milton Rubincam, Marilyn Duncan and other leading authorities, participants learn how to conduct research in major genealogical repositories such as the National Archives, Library of Congress and the DAR Library.

If you'd like a booklet describing our distillery tour, drop Ray (or Clay) a line.

VISIT JACK DANIEL'S DISTILLERY and it's likely that one of these gentlemen will show you around.

That's Garland Dusenberry, our weekend guide, standing on your left. Big Yodeler Brannon is the gentleman with the walking stick. And the Rogers twins, Clay and Ray, are seated in between. Behind, you've got Boss Edens, Billy Carpenter and Lamont Weaver. Each of these boys can talk forever about Jack Daniel's. But just a sip, we believe, will tell you a whole lot more.

CHARCOAL MELLOWED
DROP
BY DROP

Tennessee Whiskey • 90 Proof • Distilled and Bottled by Jack Daniel Distillery, Lem Motlow, Prop. Inc., Route 1, Lynchburg (Pop. 361), Tennessee 37352

Placed in the National Register of Historic Places by the United States Government.

By Dixie Oliver

Don't be alarmed: that's no thief, just my security system

I woke up with a start. Something was wrong. What?

I listened, still half asleep. Then I knew. It was the *silence*. In the entire neighborhood, not one burglar alarm was doing its thing.

I jabbed my husband, four stiff fingers in the solar plexus.

"Are you awake?" I whispered. "It's *eerie*! Something funny's going on!"

"Lake Erie? Whazzamatta Lake Erie?"

"I didn't say Lake Erie. I said *eerie*. As in *skeery*. Listen. Hear anything?"

"Nope."

"Exactly," I said. "It's Martians. An Unidentified Flying Object and we've been zapped. They've blotted out all the burglar alarms!"

"Well, call the police. That oughta fetch 'em. Cops never come around anymore when the dang things go off."

A few years ago the whooping or ringing of a residential burglar alarm would send me bounding to the phone to dial 911. That was when only our most cautious neighbors had wired their houses against intrusion. As Mrs. Jones explained at the time, "There's nothing left for burglars to take. But I'm hauling in the welcome mat anyway. From now on, if even a woodpecker acupunctures my aluminum siding, he'll have technology to answer to. My husband and I are installing an electronic security system. Bells, whoopers, signal to the police, the works. It'll be just like Fort Knox."

Since those innocent days, burglar alarms have blossomed throughout the neighborhood. The Franks, who live next door to the Joneses, installed a humdinger of an alarm system, battery-powered and computerized. There was a tape-recorded dog bark, a deep basset-profundo, that was activated whenever someone approached a door. There was even a purple-dye booby trap in Mrs. Frank's jewelry box.

Trouble was, the system was hypersensitive to itself. It kept giving false alarms during prime TV time, just when the squad car chases on the networks were getting hot. And to make matters worse, Mrs. Frank kept forgetting to deactivate her booby trap before rooting around for her earrings. Until she gave up and stashed her jewelry in a bank vault, she was the purplest person on the block.

Never ones merely to follow the crowd, the Johnsons opted for an alarm system that was a spider web of circuit trippers and ultrasonic sensors. And, as a backup, they too provided spine-chilling dog barks. Real-for-sure-'nuff ones, courtesy of a pair of misanthropic Doberman pinschers named Göring and Himmler.

Those monsters vocalize day and night, but decibel for decibel they can't begin to compete with the neighborhood's paranoid, hair-trigger, mechanical false alarms. However, they do neatly bully the postman, the garbage collectors and the meter readers, not to mention the police who sometimes actually do come around to see how it happens that so many security gadgets are disturbing the peace. (I have a miniature schnauzer. On such occasions he keeps his mouth shut. He doesn't want to get involved.)

If I happen to skip one of the monthly meetings of our garden club, I miss out on the latest news about which alarm systems have done what, and why. But I always hear within a few days. Indirectly. What I hear is a new security system joining in the electronic chorus, usually falsely, from a house that didn't previously have one. I wonder if anyone but me pays the slightest attention.

I can identify almost every alarm on the block. Four doors away, there's one that is distinctly masculine. Very macho. Some alarms are assertively feminine, and others are impersonally neuter. And there's at least one alarm down the street that I can't make up my mind about, though I happen to know that its central control panel is hidden in a closet.

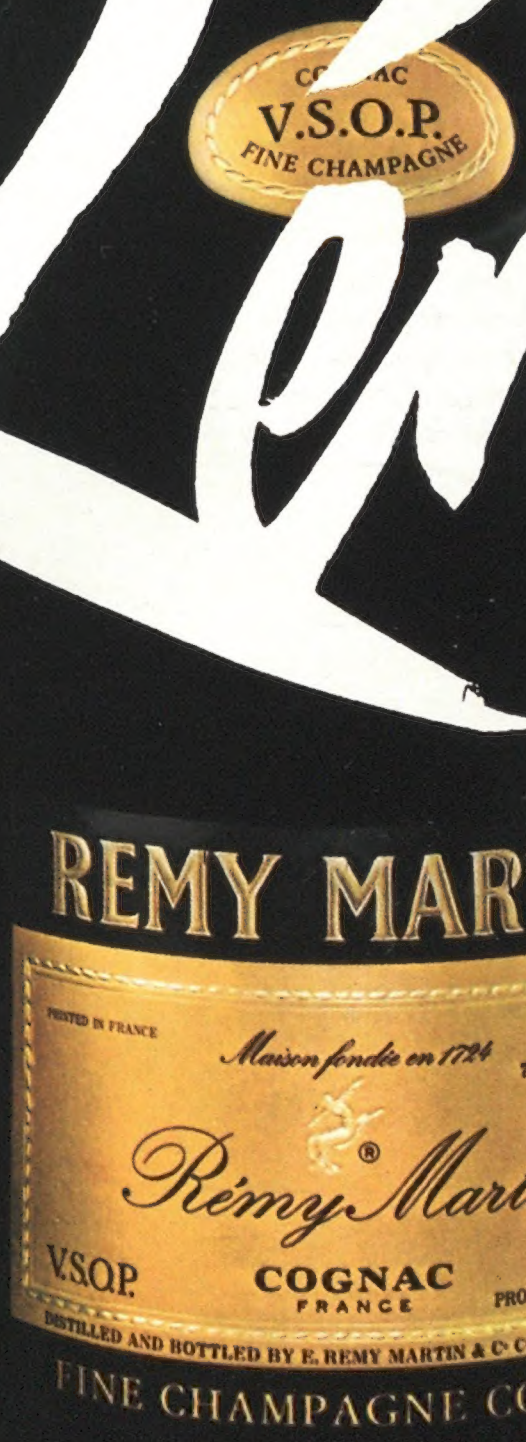
One alarm bell sounds asthmatic, owing no doubt to spiders or wasps nesting in its innards. Just up the street there's a screecher that sounds nervous. The siren atop the house next door has a lazy quality to it, as though it's too much trouble to attempt the usual coloratura passages. What I'd like to have is an alarm that sounds like a foghorn: lonely and forlorn. Instead, the one my husband and I do have sounds kind of reluctant and tentative, as if ashamed to raise a ruckus.

Which brings me to another family on the block—the Tubmans. What you hear from their house is no sound at all. They believe they've devised the perfect security system: no burglar alarms, no sneaky signals to police headquarters, no tape-recorded dog barks.

"If burglars believe there's nothing worth stealing, they won't come," says Mrs. T. She never locks her doors, seldom pulls down a shade or draws a drapery. And her house has never been hit. Proving, of course, that silence *is* golden. So wouldn't you think someone would try to steal it?

Sole U.S.A. Distributor, Foreign Vintages, Inc., Jericho, N.Y.
Imported by Remy Martin Amerique, Inc., N.Y., N.Y. 80 Proof

Rémy



THE FIRST NAME IN COGNAC SINCE 1724

EXCLUSIVELY FINE CHAMPAGNE COGNAC: FROM THE TWO "PREMIERS CRUS" OF THE COGNAC REGION

Heritage. Quality without compromise, for enduring elegance.

At Heritage, we know only one way to create upholstered furniture that will remain beautiful, comfortable and durable for many years. By observing the highest standards of craftsmanship. Thus every love seat, sofa and chair is shaped using only seasoned hardwood frames. Tightly-woven webbing is interlaced and secured to the base. Each coil spring is hand tied and anchored eight ways. Luxury cushioning and rich, flowing fabrics are attended the same painstaking skill and care. The result is fine upholstered furniture you will be proud to own. Not only as an elegant pleasure, but as a wise investment.

For your nearest Drexel Heritage dealers, write to the address below.
For Heritage brochures, send $1 to: Drexel Heritage Furnishings Inc.,
Dept.27-8-80, Drexel, N.C. 28619.

Heritage®
Craftsmanship in the grand tradition

© Drexel Heritage Furnishings Inc., 1980